Federation Proceedings

VOLUME 10 *March 1951* NUMBER 1, PART II

THIRTY-FIFTH ANNUAL MEETING

CLEVELAND, OHIO, APRIL 29–MAY 3, 1951

General Information

REGISTRATION

REGISTRATION will open at 9:00 A.M., Sunday, April 29, in the Main Lobby of the Public Auditorium and will remain open until 10:00 P.M. Registration desks will be open from 8:00 A.M. to 5:00 P.M. Monday, Tuesday, Wednesday and Thursday. The registration fee will be $4.00. Since the scientific sessions begin at 9:00 A.M. on Monday, members are urged to complete registration on Sunday if possible. The official badge issued at the registration desk must be worn to secure admission to the scientific sessions and other activities of the Federation. There will be a separate registration desk for ladies and non-professional guests.

SCIENTIFIC SESSIONS

The scientific sessions of the six constituent Societies will be held in the Public Auditorium beginning at 9:00 A.M. on Monday, April 30, and will continue through Thursday afternoon, May 3. The afternoon sessions this year will begin at 1:15 P.M. The Joint Session of the Federation will be held Monday evening, April 30, at 8:00 P.M. in the Music Hall of the Auditorium.

COUNCIL AND EXECUTIVE COMMITTEE MEETINGS; FEDERATION MEETING

Friday, Saturday and Sunday, April 27, 28 and 29, will be devoted to meetings of the Councils of the Societies, the Federation Executive Committee, and various special committees. A list of these meetings and their locations will be found on page 525. There will be a Discussion Meeting of the entire Federation Membership on Tuesday afternoon, May 1, at 4:00 P.M., in the Music Hall.

EXHIBITS

Industrial Scientific and Member and Institutional Exhibits will be located on the Main Arena Floor of the Public Auditorium, and will be open on Sunday from 2:00 to 8:00 P.M.; Monday, Tuesday and Wednesday, from 8:00 A.M. to 5:00 P.M.; Thursday, from 8:00 A.M. to 1:00 P.M. See page 519 for a list of exhibitors.

SPECIAL FUNCTIONS

An informal reception for members of the Federation and their guests will be held in the Music Hall, immediately following the close of the Joint Session on Monday evening, April 30. The official badge is all that is necessary for admission.

Programs, abstracts and tickets to special functions will be on sale near the registration desk in the Main Lobby of the Auditorium. See page 525 for a list of special activities, group dinners and meetings, and their locations.

PLACEMENT SERVICE

The Federation Placement Service will be open Saturday from 2:00 to 5:00 P.M., Sunday through Wednesday from 8:00 A.M. to 5:00 P.M., and Thursday from 8:00 A.M. to 1:00 P.M. to arrange interviews between employers and applicants. The office will be located in the South Hall one flight down from the Arena Floor.

SCHEDULE:

Registration of Applicants: Saturday, 2:00 to 5:00 P.M.; Sunday, 8:00 A.M. to 5:00 P.M. Late registrations end Tuesday at 5:00 P.M.

Advance registrations accepted until April 15. New applicants may obtain registration forms from the Placement Service, Federation of American Societies for Experimental Biology, 2101 Constitution Avenue, Washington 25, D. C. Applicants, already registered with the Placement Service, who expect to attend the meetings are asked to notify the Washington Office before April 15 to insure that their records will be processed and taken to the meeting.

Registration of Employers: Sunday through Tuesday, 8:00 A.M. to 5:00 P.M., Wednesday, 8:00 A.M. to 1:00 P.M.

Interviews: Monday through Wednesday, 8:15 A.M. to 5:00 P.M., Thursday, 8:15 A.M. to 1:00 P.M.

All applicants are advised to report as promptly as possible after arrival at the Applicants' Registration Room, to register, to record local address and to receive information about interview scheduling. Employers will be unable to examine applicants' records until applicants have reported arrival and completed registration. It is advisable to bring copies of vitae, records, bibliographies and any additional material for interviews with employers.

HEADQUARTERS HOTELS

The Hotel Statler will be headquarters hotel for the American Physiological Society, the American Society for Pharmacology and Experimental Therapeutics, and the American Society for Experimental Pathology; the Hotel Cleveland, for the American Society of Biological Chemists, the American Institute of Nutrition and the American Association of Immunologists.

Federation Program

JOINT SESSION OF THE FEDERATION

MONDAY, APRIL 30, 8:00 P.M.—MUSIC HALL

Chairman: GEOFFREY EDSALL

Physiological adaptation to cold in arctic and tropic animals. LAURENCE IRVING. *Arctic Health Research Center, U. S. Public Health Service, Anchorage, Alaska.*

Hormonal-enzymatic mechanisms in insect growth and metamorphosis. CARROLL M. WILLIAMS. *Biological Laboratories, Harvard University, Cambridge, Mass.*

Mechanisms of the biological effects of penetrating radiations. CORNELIUS A. TOBIAS. *Donner Laboratory, University of California, Berkeley.*

MOTION PICTURES

TUESDAY, MAY 1, 8:00 P.M.—BALLROOM

Chairman: C. R. TREADWELL

Anaphylaxis in the rat. PETER B. DEWS* AND CHARLES F. CODE. *Mayo Foundation, University of Minnesota and Mayo Clinic, Rochester* (Physiol.).

Convulsions induced in psychotic patients by oxygen inhalation at increased ambient pressures. R. A. GOULD, C. J. LAMBERTSEN, R. H. KOUGH, M. W. STROUD, J. H. EWING AND F. A. FREYHAN (introduced by J. E. ECKENHOFF). *University of Pennsylvania, Philadelphia* (Physiol.).

Some aspects of the function of the inner ear. H. G. KOBRAK AND J. E. HIND.* *Otological Research Laboratories, University of Chicago, Chicago, Ill.* (Physiol.).

Bile production by the isolated liver. R. W. BRAUER, L. S. PEDIGO,* J. L. HILL* and H. P. GLAVIANO. *Louisiana State University School of Medicine, New Orleans* (Pharmacol.).

Inside the cell. Part II: Regulation of enzyme activity. ALEX B. NOVIKOFF AND JEROME A. SCHACK (introduced by I. NEUWIRTH). *University of Vermont, College of Medicine, Burlington, and Beth Israel Hospital, New York City* (Pharmacol.).

FEDERATION MIXER

MONDAY, APRIL 30, FOLLOWING JOINT SESSION
Informal Reception

EXHIBITION HALL, PUBLIC AUDITORIUM
Admission by badge

An asterisk* following an author's name indicates "by invitation."

THE AMERICAN PHYSIOLOGICAL SOCIETY

Sixty-third Annual Meeting

CLEVELAND, OHIO, APRIL 29–MAY 3, 1951

*(An asterisk * following an author's name indicates "by invitation")*

Monday Morning, April 30, 9:00 a.m.

Endocrine: Adrenals, etc.

MONDAY, 9:00 A.M.—ARENA STAGE

Chairman: Jane Russell

1. Effect of suckling on adrenal ascorbic acid level of mice. IRVING I. A. TABACHNICK AND J. J. TRENTIN (introduced by D. D. BONNYCASTLE). *Depts. of Pharmacology and Anatomy, Yale Univ. School of Medicine, New Haven, Conn.* (Pharmacol.)
2. *In vitro* studies on adrenal ascorbic acid. M. SAFFRAN, MARGARET J. BAYLISS AND JAMES L. WEBB (introduced by R. A. CLEGHORN). *Allan Memorial Inst., McGill Univ., Montreal, Quebec, Canada.*
3. Increases in rat adrenal cholesterol produced by dietary fats and oils. K. K. CARROLL (introduced by J. A. F. STEVENSON). *Dept. of Med. Research, Univ. of Western Ontario, London, Ontario, Canada.*
4. Hypercholesterolemia as a possible adrenal response to ascorbic acid. WALTER M. BOOKER, FRANCES MAE DENT* AND RAYMOND L. HAYES.* *Depts. of Pharmacology and Oral Medicine, Howard Univ., Colleges of Medicine and Dentistry, Washington, D. C.*
5. Changes in concentration of phosphorus P^{32} in organs of rat following unilateral adrenalectomy. JOSEPH B. BOATMAN,* JOSEPH H. SUNDER* AND CAMPBELL MOSES. *Addison H. Gibson Lab., Univ. of Pittsburgh School of Medicine, Pittsburgh, Pa.*
6. Relation of nor-epinephrine and other autonomic agents to vascular collapse of stressed adrenalectomized animal. E. R. RAMEY,* M. S. GOLDSTEIN,* I. FRITZ* AND RACHMIEL LEVINE. *Dept. of Metabolic and Endocrine Research, Med. Research Inst., Michael Reese Hospital, Chicago, Ill.*
7. Effect of feeding thiourea on morphology of thyroid and adrenals in castrated mice of C_3H strain. CARMEN B. CASAS AND ENRIQUE KOPPISCH (introduced by ROGER M. REINECKE). *Dept. of Physiology and Pharmacology and Pathology, Univ. of Puerto Rico School of Medicine, San Juan.*
8. Effect of adrenalectomy on blood protein-bound iodine. W. C. FOSTER, B. CALESNICK AND N. H. SMITH (introduced by J. F. MCCLENDON). *Depts. of Physiology and Pharmacology, Hahnemann Med. College, Philadelphia, Pa.*
9. Effects of adrenalectomy and hypophysectomy upon red cell fragility. ALBERT S. GORDON AND HERBERT MEGEL.* *Dept. of Biology, Washington Square College, New York Univ., New York City.*
10. Stress-induced lymphocytosis in adrenalectomized mice. L. F. KUMAGAI* AND T. F. DOUGHERTY, *Dept. of Anatomy, Univ. of Utah, Salt Lake City, Utah.*

Neurophysiology: Spinal Cord and Reflexes

MONDAY, 9:00 A.M.—LITTLE THEATRE

Chairman: Chandler McC. Brooks

11. Effect of ultrasound on the central nervous system of frogs. W. J. FRY* AND V. J. WULFF. *Univ. of Illinois, Urbana.*
12. Electromyographic and histological studies on animals made spastic by spinal cord ischemia. A. J. KOSMAN, JOHN HILL* AND RAY S. SNIDER. *Depts. of Physiology and Anatomy, Northwestern Univ. Med. School, Chicago, Ill.*
13. Disynaptic reflex linkage between muscles of a myotatic unit. YVES LAPORTE* AND DAVID P. C. LLOYD. *Rockefeller Inst., New York City.*
14. Reciprocal inhibition of spinal motoneurons. A. S. DONTAS,* D. C. PETERS* AND ROBERT GESELL. *Physiology Lab., Univ. of Michigan, Ann Arbor.*
15. Effects of D. C. polarization on spinal reflexes. KARL FRANK (introduced by F. J. MULLIN). *Dept. of Physiology, Univ. of Chicago, Chicago, Ill.*
16. Characteristics of muscle responses to pyram-

idal stimulation. JOHN M. BROOKHART. *Dept. of Physiology, Univ. of Oregon Med. School, Portland.*

17. Single unit activity in the spinocerebellar tract in cats. James M. Sprague (introduced by WILLIAM W. CHAMBERS). *Dept. of Anatomy, School of Medicine, Univ. of Pennsylvania, Philadelphia, Pa.*
18. Facilitation of mephanesin (lissephen) depressed stretch reflexes. RICHARD B. HOVDA (introduced by JOHN S. GRAY). *Dept. of Physiology, Northwestern Univ. Med. School, Chicago, Ill.*
19. Some actions of strychnine. PATRICK D. WALL,* JEROME Y. LETTVIN,* WARREN S. MCCULLOCH AND WALTER PITTS.* *Univ. of Chicago, Chicago, Ill., Manteno State Hospital, Manteno, Ill., Univ. of Illinois College of Medicine, Chicago, Ill., and Massachusetts Inst. of Technology, Cambridge.*
20. Segmental patterns in man. IRVIN M. KORR AND PRICE E. THOMAS.* *Dept. of Physiology, Kirksville College of Osteopathy and Surgery, Kirksville, Mo.*
21. Mass movement patterns in the facilitation of neuro-muscular responses. HERMAN KABAT AND MILTON GJELHAUG LEVINE.* *Kabat-Kaiser Inst., Vallejo, Calif.*

Heart: Volumes, Output

MONDAY, 9:00 A.M.—MUSIC HALL

Chairman: Grace Roth

22. Significance of capacitance changes accompanying cardiac activity in man. WILLIAM V. WHITEHORN. *Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago, Ill.*
23. Further observations concerning the electrokymographic records from the dog's heart. GORDON C. RING. *Dept. of Physiology, Temple Med. School, Philadelphia, Pa.*
24. Some observations on the pulmonary densogram in the dog. H. W. RUDEL (introduced by E. M. GREISHEIMER). *Dept. of Physiology, Temple Med. School, Philadelphia, Pa.*
25. Mechanics of ventricular contraction: a cinefluorographic study. ROBERT F. RUSHMER, NATHAN THAL* AND ALLEN YOUNG.* *Dept. of Physiology and Biophysics, Univ. of Washington School of Medicine, Seattle.*
26. Comparison of cardiac stroke volume as determined by the pressure pulse contour method and by a direct method using a rotameter. FRANK H. LONGINO* AND DONALD E. GREGG. *Army Med. Service Graduate School, Washington, D. C.*
27. Estimation of the residual volume of the right ventricle of the dog by the simultaneous injection of T-1824 and brilliant vital red. D. H. LEWIS AND O. W. SHADLE (introduced by G. P. MCCOUCH). *Dept. of Physiology, Univ. of Pennsylvania Med. School, Philadelphia.*
28. Cardiac outputs in normal dogs using cardiac puncture with fluoroscopic guidance. PAUL FORMEL,* THOMAS SEYMOUR,* SEYMOUR HORWITZ,* ANTONIO VERSACI* AND HAROLD C. WIGGERS. *Dept. of Physiology, Albany Med. College, Albany, N. Y.*
29. Estimation of cardiac output by the dye method with an ear oximeter. EARL F. BEARD,* JOHN W. NICHOLSON, III* AND EARL H. WOOD. *Mayo Clinic and Mayo Fndn., Univ. of Minnesota, Rochester.*
30. Relationship between basal cardiac output and body composition with special reference to obesity. HENRY LONGSTREET TAYLOR, JOSEF BROZEK AND ANCEL KEYS. *Lab. of Physiological Hygiene, Univ. of Minnesota, Minneapolis.*
31. A comparison of physically active and inactive men 45 to 54 years of age. AUSTIN HENSCHEL. *Lab. of Physiological Hygiene, Univ. of Minnesota, Minneapolis.*

Respiration

MONDAY, 9:00 A.M.—MUSIC HALL FOYER

Chairman: Julius Comroe, Jr.

32. Measurements on the elasticity of the isolated rat lung. RICHARD W. LAWTON AND DOYLE JOSLIN (introduced by DAYTON J. EDWARDS). *Dept. of Physiology, Cornell Univ. Med. College, New York City.*
33. Muscle and intravascular temperatures during exercise and their relation to pulmonary ventilation. FRED F. KAO* AND FRED S. GRODINS. *Dept. of Physiology, Northwestern Univ. Med. School, Chicago, Ill.*
34. Residual air volumes at rest and during treadmill exercise. HURLEY L. MOTLEY AND JOSEPH F. TOMASHEFSKI.* *Cardio-Respiratory Lab., Barton Memorial Div., Jefferson Hosp.; and Dept. of Medicine, Jefferson Med. College, Philadelphia, Pa.*
35. Respiratory gas exchange following tilting from standing to supine position. HERMANN RAHN AND RICHARD AMENT.* *Dept. of Physiology and Vital Economics, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.*
36. Direct pulmonary effects of pressure breathing. JAMES V. MALONEY, JR.* AND JAMES L. WHITTENBERGER. *Dept. of Physiology, Harvard School of Public Health, Boston, Mass.*
37. Mechanism of magnesium polypnea in the urethanized cat. V. E. HALL AND W. J.

WHALEN.* *Dept. of Physiology, Stanford Univ. School of Medicine, Stanford, Calif.*

38. Impairment of alveolar ventilation during anesthesia in man. ALBERT ROOS AND JAMES G. GABBARD.* *Lab. of Thoracic Physiology, Washington Univ. School of Medicine, St. Louis, Mo.*
39. Respiratory response of anesthetized dogs subjected to progressive anemic hypoxia. WAYLAND E. HULL (introduced by J. W. WILSON). *Dept. of Physiology, Duke Univ. School of Medicine, Durham, N. C.*
40. Effects of temperature upon resistance of guinea pigs to anoxia. JAMES A. MILLER, JR., FAITH S. MILLER, CAROLYN B. FARRAR (introduced by STEPHEN W. GRAY). *Dept. of Anatomy, Emory Univ. School of Dentistry, Emory University, Ga.*
41. Dual role of thiamine in producing bronchoconstriction. JAY A. SMITH AND HERBERT SOHN (introduced by A. H. RYAN). *Dept. of Physiology and Pharmacology, Chicago Med. School, Chicago, Ill.*

Gastrointestinal Tract

MONDAY, 9:00 A.M.—BALLROOM

Chairman: M. I. Grossman

42. Protein constituents of canine pancreatic juice—electrophoretic and enzymatic studies. S. A. KOMAROV AND ALLAN L. GROSSBERG.* *Fels Research Inst., Temple Univ. School of Medicine, Philadelphia, Pa.*
43. Presence of two amylases in dog's pancreatic juice. JEROME M. WALDRON (introduced by I. H. WAGMAN). *Dept. of Physiology, Jefferson Med. College, Philadelphia, Pa.*
44. Factors influencing the continuous recording of gastrointestinal pH in situ. RANDOLPH A. ROVELSTAD,* CHARLES A. OWEN, JR.* AND THOMAS B. MAGATH. *Div. of Clin. Labs., Mayo Clinic, Rochester, Minn.*
45. Absorption and excretion studies of alkyl sugar derivatives. FLOYD R. SKELTON, GORDON A. GRANT AND JOHN K. SOUCH (introduced by HANS SELYE). *Research and Biological Labs., Ayerst, McKenna and Harrison Limited, Montreal, Quebec, Canada.*
46. Effect of painful stimuli on intestinal motility of albino and hooded rats. EDWARD J. VAN LIERE, HELEN H. HESS* AND EDWARD J. FEDOR.* *Dept. of Physiology, West Virginia Univ. School of Medicine, Morgantown.*
47. Myenteric reflex in the dog's duodenum. J. E. THOMAS. *Jefferson Med. College, Philadelphia, Pa.*
48. Accurate registration of intra-abdominal pressures. J. P. QUIGLEY, D. A. BRODY* AND W. C. LANDOLINA.* *Dept. of Physiology, School of Biological Sciences, Univ. of Tennessee, Memphis.*
49. Defecation in animals following excision of Auerbach's plexus in the colon. FREDERICK M. KLINGE (introduced by H. L. WHITE). *Dept. of Physiology, Washington Univ. School of Medicine, St. Louis, Mo.*
50. Mechanism of bile formation. DONALD L. COOK,* W. E. HAMBOURGER AND D. M. GREEN. *Div. of Biological Research, G. D. Searle and Co., Chicago, Ill.*
51. Effect of ox bile on fat absorption in bile fistula dogs. G. W. SEARLE* AND J. H. ANNEGERS. *Dept. of Physiology, Northwestern Univ. Med. School, Chicago, Ill.*
52. Inhibition of dimethyl-p-aminoazobenzene induced hepatomas. DOROTHY NELSON,* PAUL SZANTO* AND A. C. IVY. *Dept. of Clin. Science, Univ. of Illinois College of Medicine, and Hektoen Inst., Chicago, Ill.*
53. Histidinuria and liver function. JOE B. NASH,* HARVEY HAYS, JR.*, JOYCE K. HOWARD* AND G. A. EMERSON. *Univ. of Texas Med. Branch, Galveston.* (Pharmacol.)

Monday Afternoon, April 30, 1:15 p.m.

Endocrines: Insulin, Diabetes, CHO Metabolism

MONDAY, 1:15 P.M.—ARENA STAGE

Chairman: Evelyn Anderson

54. Action of crystalline trypsin on insulin and hyperglycemic factor. F. R. VAN ABEELE AND E. D. CAMPBELL (introduced by OTTO K. BEHRENS). *Div. of Biochemistry, Eli Lilly Research Labs., Indianapolis, Ind.* (Biochem.)
55. Disposal of glucose by extra-hepatic tissues under influence of insulin. ARNE N. WICK* AND DOUGLAS R. DRURY. *Scripps Metabolic Clinic, La Jolla, Calif., and Dept. of Physiology, Univ. of Southern California, Los Angeles.*
56. Effect of insulin hypoglycemia on adrenal activity. J. SPENCER MUNROE (introduced by JAMES CAMPBELL). *Dept. of Physiology, Univ. of Toronto, Toronto, Canada.*
57. 17-Ketosteroid excretion during therapy of diabetic acidosis. LAWRENCE GREENMAN,* T. S. DANOWSKI, M. ROSENBLOOM* AND JOHN HOLT.* *Univ. of Pittsburgh School of Medicine, the Children's and Presbyterian Hospitals, Pittsburgh, Pa.*

58. Effect of purified growth hormone on growth of islets of Langerhans in hypophysectomized, intact, and glucose-injected rats. R. E. HAIST AND B. KINASH.* *Dept. of Physiology, Univ. of Toronto, Toronto, Ontario, Canada.*
59. Effects of pituitary growth hormone and cortisone administration *in vivo* on ketogenesis by surviving liver slices obtained from hypophysectomized rats. JAY TEPPERMAN AND JANET M. DEWITT.* *Dept. of Pharmacology, State Univ. of New York Med. Center, Syracuse.*
60. An insulin-free pancreatic extract capable of reducing concentration of ketone bodies in the blood. PIERO P. FOA AND HARRIET R. WEINSTEIN.* *Dept. of Physiology and Pharmacology, Chicago Med. School, Chicago, Ill.*
61. Attempts to demonstrate alloxan in human urine. DAVID SELIGSON,* HARRIET SELIGSON,* BERNARD SHAPIRO,* RONALD G. PALEY,* TANIA RIABOFF* AND F. D. W. LUKENS. *George S. Cox Med. Research Inst., Univ. of Pennsylvania, Philadelphia, Pa.*
62. Protection against diabetes induced by alloxan. RALPH G. JANES. *Dept. of Anatomy, State Univ. of Iowa, Iowa City.*
63. Inhibition of glycogenesis in muscle by alloxan and restitution by insulin. DAVID E. HAFT* AND I. ARTHUR MIRSKY. *The May Inst. for Med. Research, Cincinnati, Ohio.*
64. Metabolism of analogous mammary tumors. A. GOLDFEDER, H. ALBAUM, AND L. EISLER.* *Biology Dept., New York Univ., and Dept. of Hospitals, New York City.*

General Physiology: Erythrocytes, etc.

MONDAY, 1:15 P.M.—LITTLE THEATRE

Chairman: C. L. Prossor

65. Glucose metabolism by the red cell. GRANT R. BARTLETT (introduced by E. M. MACKAY). *Scripps Metabolic Clinic, La Jolla, Calif.*
66. *In vitro* incorporation of labeled leucine into proteins of rabbit reticulocytes. HENRY BORSOOK, CLARA L. DEASY,* AIRIE J. HAAGEN-SMIT,* GEOFFREY KEIGHLEY* AND PETER H. LOWY.* *Kerckhoff Labs. of Biology, California Inst. of Technology, Pasadena.*
67. Methemoglobin reduction by avian erythrocyte. HOWARD H. ROSTORFER, WILLIAM F. GEBER* AND HAROLD R. ONYETT.* *Dept. of Physiology, Indiana Univ., Bloomington.*
68. Phosphate turnover in human erythrocyte. D. R. H. GOURLEY (introduced by C. L. GEMMILL). *Dept. of Pharmacology, Univ. of Virginia Med. School, Charlottesville.* (Pharmacol.)
69. Competition among monoses for active transport into human red cell. PAUL G. LEFEVRE AND ROBERT I. DAVIES.* *Dept. of Physiology and Biophysics, Univ. of Vermont, Burlington.*
70. Permeability of human erythrocyte to sodium and potassium *in vitro*. A. K. SOLOMON (introduced by J. R. PAPPENHEIMER). *Biophysical Lab., Harvard Med. School, Boston, Mass.*
71. Action of enzymes on potassium loss from red cells. JAMES W. GREEN (introduced by W. W. SWINGLE). *Bureau of Biological Research, Rutgers Univ., N. J.*
72. Mechanism of action of the naturally occurring lysins and inhibitors that are found in guinea pig liver extracts. DAVID B. TYLER AND MATILDA TYLER.* *Depts. of Physiology and Pharmacology, School of Medicine, Univ. of Puerto Rico, San Juan.*
73. Effectiveness of commercial hemolytic agents. A. P. ST. ONGE* AND D. B. DILL. *Med. Div., Army Chemical Center, Md.*
74. Hemolysis by freezing. BASILE LUYET AND LEO MENZ.* *Dept. of Biology, St. Louis Univ., St. Louis, Mo.*
75. Relation of EMF to permeability of frog skin to phosphorus. H. W. DISERENS (introduced by C. E. HALL). *Carter Physiology Lab., Univ. of Texas Med. Branch, Galveston.*
76. Influence of some inorganic cations on electrolyte pump in isolated frog skin. ERNST G. HUF AND JOYCE WILLS.* *Dept. of Physiology, Med. College of Virginia, Richmond.*

Heart: Pathological Physiology

MONDAY, 1:15 P.M.—MUSIC HALL

Chairman: Harold D. Green

77. Mitral stenosis produced in the dog. GEORGE H. A. CLOWES, JR. (introduced by CHARLES H. BEST). *Banting and Best Dept. of Med. Research, Univ. of Toronto, Toronto, Ontario, Canada.*
78. Hydraulics of mitral insufficiency. RICHARD GORLIN AND LEWIS DEXTER (introduced by GEORGE W. THORN). *Peter Bent Brigham Hosp. and Harvard Med. School, Boston, Mass.*
79. Mitral valve orifice areas and blood flows as calculated from hydraulic formulae. BENJAMIN M. LEWIS,* FLORENCE W. HAYNES AND RALPH J. SPEIGL.* *Peter Bent Brigham Hosp. and Harvard Med. School, Boston, Mass.*
80. Effect of atrial systole on closure of A-V valves. ROBERT C. LITTLE. *Div. of Physiology, Univ. of Tennessee School of Biological Sciences, Memphis.*
81. Determination of residual volume of blood in right ventricle of normal and diseased human hearts. R. HEIMBECKER,* D. CAR-

ROLL,* W. FALHOLT,* G. MUDD,* C. FERENCZ* AND R. J. BING. *Dept. of Surgery, Johns Hopkins Hosp., Baltimore, Md.*

82. Effect of increased intratracheal tension on pulmonary and systemic arterial pressures in the absence of a ventricular septum. S. RODBARD AND A. SAGAN.* *Cardiovascular Dept., Med. Research Inst., Michael Reese Hospital, Chicago, Ill.*
83. Production of experimental endocarditis in dogs. J. R. R. BOBB, J. D. M. WARGO,* J. M. SHAFFER* AND M. B. VISSCHER. *Depts. of Physiology and Medicine, Med. School, Univ. of Minnesota, Minneapolis.*
84. Acute hemodynamic effects of coronary artery occlusion. RÉNE WÉGRIA, CHARLES W. FRANK,* GEORGE MISRAHY,* HSEUH HWA WANG,* ROBERT CASE* AND ROBERT MILLER.* *Dept. of Medicine, Columbia Univ., College of Physicians and Surgeons, and Presbyterian Hosp., New York City.*
85. Effects of experimental coronary occlusion on phosphate fractions of the dog heart. A. G. MULDER, WILLIAM J. MARSHALL,* THOMAS C. LINDMAN* AND CHARLES D. PROCTOR.* *Dept. of Physiology, Stritch School of Medicine, Loyola Univ., Chicago, Ill.*
86. Quinidine lactate and gluconate in delayed ventricular tachycardia following experimental coronary occlusion. A. SIDNEY HARRIS, ANTONIO ESTANDIA,* AND REX F. TILLOTSON.* *Dept. of Physiology, Baylor Univ. College of Medicine, Houston, Texas.*
87. Oxygen consumption during and after tamponade. NORMAN R. ALPERT (introduced by WILLIAM W. WALCOTT). *Dept. of Physiology, Columbia Univ. College of Physicians and Surgeons, New York City.*

Kidney: Glomerular and Tubular Function, etc.

MONDAY, 1:15 P.M.—MUSIC HALL FOYER

Chairman: R. F. Pitts

88. Reduction in glomerular activity induced by 'cigarette smoke apnea' in rabbits. ROY P. FORSTER. *Dept. of Zoology, Dartmouth College, Hanover, N. H.*
89. Concentration of potassium in glomerular fluid of the Necturus. PHYLLIS A. BOTT. *Dept. of Physiological Chemistry, Woman's Med. College of Pennsylvania, Philadelphia.* (Biochem.)
90. Human glomerular permeability and tubular recovery values for hemoglobin. ROGER K. MCDONALD, JOHN H. MILLER* AND ELEANORE B. ROACH.* *Natl. Heart Inst., Natl. Insts. of Health, Bethesda, Md., and Section on Gerontology, Baltimore City Hospitals, Baltimore, Md.*
91. Relation of glomerular filtration rate and blood and urine pH to physiologic proteinuria. NORMAN B. JAVITT* AND A. T. MILLER, JR. *Dept. of Physiology, Univ. of North Carolina Med. School, Chapel Hill.*
92. ACTH on experimental proteinuria in the rat. J. MARMORSTON, A. SELLERS, H. GOODMAN AND S. SMITH, III (introduced by HARRY GOLDBLATT). *Inst. for Med. Research, Cedars of Lebanon Hosp., Los Angeles, Calif.*
93. Statistical analysis of renal clearance by the dog. H. F. RUSSO, J. L. CIMINERA, AND S. R. GASS (introduced by KARL H. BEYER). *Dept. of Pharmacology, Research Division, Sharp and Dohme, Inc., Glenolden, Pa.*
94. Comparison of single injection and infusion methods for determining renal clearances in dogs without urine analysis. C. RILEY HOUCK. *Div. of Physiology, School of Biological Sciences, Univ. of Tennessee, Memphis.*
95. Effect of hypertonic saline upon renal tubular transport mechanisms for sodium glucose and PAH in dogs. MATTHEW N. LEVY, JAY ANKENEY AND PIERRE JEANNERET (introduced by DAVID F. OPDYKE). *Dept. of Physiology, Western Reserve Univ. Med. School, Cleveland, Ohio.*
96. Comparative effects of hypertonic solutions of sodium succinate, fumarate, acetate, and chloride on renal hemodynamic and PAH extraction in the dog. SAMUEL A. CORSON, ABRAHAM L. SIEGEL,* ELIZABETH J. O'LEARY,* AND ROBERT S. PICARD.* *Toledo Hosp. Inst. of Med. Research, Toledo, Ohio.*
97. Renal hypertrophy in potassium-deficient rats. FREDERICK A. FUHRMAN AND ADELAIDE BROKAW.* *Dept. of Physiology, Stanford Univ. School of Medicine, Stanford, Calif.*
98. Oxygen consumption of rat kidney slices in relation to conditions affecting renal water reabsorption. INGRITH J. DEYRUP. *Depts. of Zoology of Barnard College and Columbia Univ., New York City.*

Blood: Coagulation

MONDAY, 1:15 P.M.—CLUB ROOM C

Chairman: John H. Ferguson

99. Gelation phase of blood coagulation. ALFRED LEWIN COPLEY. *Dept. of Medicine, New York Med. College, New York City.*
100. Interaction of SPCA with platelets or thromboplastin in prothrombin conversion. GRETA LANDWEHR AND BENJAMIN ALEXANDER (introduced by RALPH W. MCKEE). *Beth Israel Hospital and Harvard Med. School, Boston, Mass.* (Biochem.)
101. Influence of thrombin on platelet activity in blood coagulation. MARIO STEFANINI (intro-

duced by WILLIAM H. FISHMAN). *Ziskind Labs., J. H. Pratt and New England Center Hosps., and Dept. of Medicine, Tufts College Med. School, Boston, Mass.* (Biochem.)

102. Clotting time and interaction of bovine fibrinogen and thrombin. DAVID F. WAUGH AND BETTY J. LIVINGSTONE.* *Dept. of Biology, Mass. Institute of Technology, Cambridge, Mass.*

103. Activation of human profibrinolysin. EARL B. GERHEIM, ANDRE M. WEITZENHOFFER* AND GEORGE R. LOGWOOD.* *Div. of Research, Univ. of Detroit School of Dentistry, Detroit, Mich.*

104. Activation of dog serum profibrinolysin by a serum fibrinolysokinase. JESSICA H. LEWIS AND JOHN H. FERGUSON. *Dept. of Physiology, Univ. of North Carolina, Chapel Hill.*

105. Photometric assay of plasma heparin. R. B. GIBSON, T. L. CARR,* SAUL GREEN* AND W. M. FOWLER* (with the technical assistance of Imogene Jenson). *Depts. of Biochemistry and Medicine, State Univ. of Iowa, Iowa City.*

106. Release of vasoconstrictor substance(s) from platelets. MARJORIE B. ZUCKER. *New York Univ. Dental College, New York City.*

107. Clot accelerating activity of euglobulin fractions from normal and hemophilic plasma. L. M. TOCANTINS, R. R. HOLBURN* AND R. T. CARROLL.* *Div. of Hematology, Dept. of Medicine, Jefferson Med. College and Hospital, Philadelphia, Pa.*

108. Ratio of free to total prothrombin in various types of hypoprothrombinemia. ARMAND J. QUICK AND CLARA V. HUSSEY.* *Dept. of Biochemistry, Marquette Univ. School of Medicine, Milwaukee, Wis.* (Biochem.)

109. Effect of blood and plasma transfusion on bleeding time in pseudohemophilia. LEDA ZANNOS AND MARIO STEFANINI (introduced by JOSEPH H. PRATT). *Ziskind Labs., J. H. Pratt and New England Center Hosps., and Dept. of Medicine, Tufts College Med. School, Boston, Mass.*

Symposium: Demand and Supply of Energy for Function

MONDAY, 1:15 P.M.—BALLROOM

Chairman: John O. Hutchens

Introduction: Ralph W. Gerard

110. Basic concepts. J. Z. HEARON. *Univ. of Chicago, Chicago, Ill.*

111. Muscular contraction. MANUEL F. MORALES. *Naval Med. Research Inst., Bethesda, Md.*

112. Nerve conduction. A. M. SHANES. *Natl. Insts. of Health, Bethesda, Md.*

113. Growth. JOHN O. HUTCHENS. *Univ. of Chicago, Chicago, Ill.*

Physiology Society Business Meeting

MONDAY, 4:00 P.M.—LITTLE THEATRE

Joint Session of the Federation

MONDAY, 8:00 P.M.—MUSIC HALL

Program on page 428

Mixer—Informal Reception

MONDAY, 10:00 P.M.—EXHIBITION HALL

Tuesday Morning, May 1, 9:00 a.m.

Endocrines: Thyroid, Parathyroid, etc.

TUESDAY, 9:00 A.M.—ARENA STAGE

Chairman: Steven M. Horvath

114. Serum calcium and inorganic phosphorus levels following calcium injections into nephrectomized, bilateral ureteral ligated and thyroparathyroidectomized dogs. JAMES R. HINES* AND SMITH FREEMAN. *Dept. of Exptl. Medicine, Northwestern Univ. Med. School, Chicago, Ill.*

115. Effect of thiouracil induced hypothyroidism on partition of radioactive calcium between bone and liver in normal and rachitic male rats. L. F. WOLTERINK, D. I. EPSTEIN AND M. MURRAY (introduced by W. D. COLLINGS). *Dept. of Physiology and Pharmacology, Michigan State College, East Lansing.*

116. Thyroid impression by stress. LESTER VAN MIDDLESWORTH (with the technical assistance of MARY MARGARET BERRY*). *Div. of Physiology, Univ. of Tennessee School of Biological Sciences, Memphis.*

117. Thyroxine effects on tissue metabolism. S. B. BARKER AND H. M. KLITGAARD.* *Dept. of Physiology, State Univ. of Iowa, Iowa City.*

118. Response of human athyreotics to levorotatory thyroxine, administered orally. IRA ROSENBLUM (introduced by WILLIAM T. SALTER). *Dept. of Pharmacology, Yale Univ. School of Medicine, New Haven, Conn.*

119. Time required for metabolic response to single injections of thyroxin. ROWLAND E. LOGAN* AND ALLEN LEIN. *Dept. of Physiology, Northwestern Univ. Med. School, Chicago, Ill.*

120. Effect of exogenous thyroxine on iodine turnover in chick thyroid glands. R. L. CORNWALL* AND E. P. REINEKE. *Dept. of Physiology and Pharmacology, Michigan State College, East Lansing.*

121. Action of vitamin B_{12} and of liver extract on nitrogen balance of hyperthyroid rats. J. RUPP (introduced by F. R. MILLER). *Jefferson Med. College, Philadelphia, Pa.*

122. Effects of adrenergic blocking agents on thyroid hyperplasia produced by allyl thiourea in rats. STANLEY C. SKORYNA, D. R. WEBSTER AND D. J. BEAUPRIE (introduced by F. C. MACINTOSH). *Dept. of Exptl. Surgery, McGill Univ., Montreal, Quebec, Canada.*

123. Comparison of the inhibitory effect of sodium azide on the *in vitro* respiration of resting and stimulated tissues of normal and hyperthyroid rats. M. S. GOLDSTEIN (introduced by E. B. ASTWOOD). *Ziskind Research Labs., New England Center Hosp., and Dept. of Medicine, Tufts College Med. School, Boston, Mass.*

124. Antithyrotoxic action of antibiotics in rats. JOSEPH MEITES, R. C. OGLE* AND Y. S. L. FENG.* *Dept. of Physiology and Pharmacology, Michigan State College, East Lansing.*

125. Status of conversion ratio as measure of thyroid activity. KENT F. BALLS, JOHN M. PHILLIPS AND JAMES D. HARDY (introduced by WM. M. PARKINS). *Hospital of the University of Pennsylvania, and Harrison Dept. of Surgical Research, School of Medicine, University of Pennsylvania, Philadelphia.*

Nerve-Muscle, etc.

TUESDAY, 9:00 A.M.—LITTLE THEATRE

Chairman: Abraham Shanes

126. Functional studies of the anterior tibial muscle. J. E. MARKEE AND M. WILLIAMS. *Dept. of Anatomy, Duke Univ., Durham, N. C.*

127. Similarity of the double response and of tetanus in frog and rat skeletal muscle at similar temperatures. SHEPPARD M. WALKER. *Dept. of Physiology, Univ. of Louisville School of Medicine, Louisville, Ky.*

128. Collective end-plate potentials as an analogy of generation of neurocellular current. CHARLES R. BRASSFIELD AND WILLIAM W. STEINBERGER.* *Physiology Lab., Univ. of Michigan, Ann Arbor.*

129. Membrane potential changes at a single muscle end plate produced by acetylcholine. WILLIAM L. NASTUK. *College of Physicians and Surgeons, Columbia Univ., New York City.*

130. Neuromuscular organization of single motor units. J. S. DENSLOW AND OLWEN GUTENSOHN.* *Kirksville College of Osteopathy and Surgery, Kirksville, Mo.*

131. Frequency-intensity curves of human muscle: a new method for quantitative electrodiagnosis. H. D. BOUMAN, B. S. BAUMGARTNER* AND K. J. SHAFFER.* *Univ. of Wisconsin Med. School, Madison.*

132. Effect of neurotripsy upon strength of partially denervated muscles. S. P. W. BLACK AND F. E. NULSEN (introduced by J. R. BROBECK). *Lab. of Physiology, Yale Univ. School of Medicine, New Haven, Conn.*

133. Deterioration of skeletal muscle due to con-

tracture following local tetanus toxin injection. ERNST FISCHER AND HELEN V. SKOWLUND.* *Dept. of Physiology, Med. College of Virginia, Richmond.*

134. Urinary calcium in guinea pigs on diets deficient in antistiffness factor. HUGO KRUEGER, ROSALIND WULZEN, LLOYD YONCE,* DARRELL DAVIS* AND PHILLIP LEVEQUE.* *Oregon State College, Corvallis.*

Circulation: Blood Vessels

TUESDAY, 9:00 A.M.—MUSIC HALL

Chairman: John Pappenheimer

135. Pressure and flow pulses in carotid artery of the dog compared with voltage and current pulses in electrical analogs of circulatory system. KENNETH E. JOCHIM. *Dept. of Physiology, Univ. of Kansas, Lawrence.*

136. Recording pulse pressures through the skin in dogs. ARTHUR C. GUYTON. *Dept. of Physiology and Biophysics, Univ. of Mississippi School of Medicine, University.*

137. A new method for study of vessel characteristics: pressure-distensibility relationship of human arteries. MILTON LANDOWNE. *Natl. Insts. of Health, Bethesda, Md., and Section on Gerontology, Baltimore City Hosps., Baltimore, Md.*

138. Sympathetic stimulation and critical closing pressure. FRANK GIRLING (introduced by ALAN C. BURTON). *Dept. of Biophysics, Univ. of Western Ontario, London, Ontario, Canada.*

139. Reversal of cutaneous temperatures of digits of upper and lower extremities after extensive sympathectomy and its relation to the basal metabolic rate. GRACE M. ROTH AND WINCHELL MCK. CRAIG.* *Sections on Physiology and Neurology, Mayo Clinic, Rochester, Minn.*

140. Effects of stimulation of lumbar sympathetic nerves on longitudinal bone growth in dogs. GLENN GULLICKSON, JR.,* W. G. KUBICEK, AND F. J. KOTTKE. *Div. of Physical Medicine, Univ. of Minnesota, Minneapolis.*

141. Further studies on measurement of blood flow by conductivity method. R. J. JUSTER* AND R. C. INGRAHAM. *Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago, Ill.*

142. Conventional methods compared with an absolute method for pressure transducer response measurement. JOHN PARNELL, EDW. L. BECKMAN AND THOMAS PEIRCE (introduced by J. R. POPPEN). *Moore School of Electrical Engineering and Dept. of Physiology, School of Medicine, Univ. of Pennsylvania, Philadelphia, and Naval Air Development Center, Johnsville, Pa.*

143. Fluorescein-conjugated plasma protein as an indicator of vascular permeability. ALFRED A. SCHILLER AND RICHARD W. SCHAYER.* *Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago, and Rheumatic Fever Research Inst., Northwestern Univ. Med. School, Chicago, Ill.*

144. Modification of local temperature response in an inflammatory process. H. G. WEINSTEIN (introduced by G. UNGAR). *Rheumatic Fever Research Inst., Northwestern Univ., Chicago, Ill.*

Respiration

TUESDAY, 9:00 A.M.—MUSIC HALL FOYER

Chairman: Hermann Rahn

145. Determination of arterial oxygen tension in man by equilibration through intact skin. J. PERCY BAUMBERGER AND ROGER B. GOODFRIEND.* *Physiology Dept., Stanford Univ. Med. School, Stanford, Calif.*

146. Direct measurements of alveolar-arterial differences in oxygen tension in man breathing 100 per cent oxygen. GABRIEL G. NAHAS AND EDWARD H. MORGAN (introduced by E. J. BALDES). *Mayo Fndn., Rochester, Minn.*

147. Role of carbon dioxide in acute oxygen toxicity at 3½ atmospheres inspired oxygen tension. R. H. KOUGH, C. J. LAMBERTSEN, M. W. STROUD, 3RD, R. A. GOULD AND J. H. EWING (introduced by A. N. RICHARDS). *Depts. of Pharmacology, Medicine and Psychiatry, Univ. of Pennsylvania, Philadelphia.*

148. Effect of oxygen inhalation at increased ambient pressures upon tissue carbon dioxide tension. M. W. STROUD, 3RD,* C. J. LAMBERTSEN, R. H. KOUGH,* R. A. GOULD* AND J. H. EWING.* *Depts. of Pharmacology, Psychiatry and Medicine, Univ. of Pennsylvania, Philadelphia.* (Pharmacol.)

149. Changes in concentration of nitrogen during respiratory cycle breathing air. ULRICH C. LUFT, BRUNO BALKE* AND WALTER B. BOOTHBY. *USAF School of Aviation Medicine, Randolph Field, Texas.*

150. Rapid CO_2 determination with the Pauling O_2 analyzer. VIVIAN G. BEHRMANN AND FRANK W. HARTMAN.* *Labs., Henry Ford Hospital, Detroit, Mich.*

151. Acute experiments on disposition of inhaled $C^{14}O_2$. AUSTIN M. BRUES AND AGNES N. STROUD.* *Div. of Biological and Med. Research, Argonne Natl. Lab., Chicago, Ill.*

152. Oxygen removal, oxygen consumption and ventilation in normal and cardiac male subjects, during the basal state and the first minute recovery from a standard exercise. JOHN B. JOHNSON,* EDWARD H. HALE* AND

EUGENE CLARKE* (introduced by A. H. MALONEY). *Cardio-Vascular Research Lab., Howard Univ. College of Medicine, and Freedmen's Hospital, Washington, D. C.* (Pharmacol.)

153. Age differences in respiratory ventilation and oxygen consumption following standardized exercise. ARTHUR H. NORRIS,* MARVIN J. YIENGST* AND NATHAN W. SHOCK. *Natl. Insts. of Health, Bethesda, Md., and Section on Gerontology, Baltimore City Hosps., Baltimore, Md.*

154. Effect of omission of breakfast on amount of oxygen required by men past 60 years of age, to perform work. W. W. TUTTLE AND KATE DAUM.* *Depts. of Physiology and Nutrition, State Univ. of Iowa, Iowa City.*

Comparative Physiology

TUESDAY, 9:00 A.M.—EXHIBIT HALL, ROOM D

Chairman: Edgar C. Black

155. Rapidly acquired tolerance to decompression in insects. W. A. HIESTAND AND FRED W. STEMLER.* *Lab. of Animal Physiology, Purdue Univ., Lafayette, Ind.*

156. Temperature and erythrocyte count of goldfish. W. A. SPOOR (introduced by C. K. WEICHERT). *Dept. of Zoology, Univ. of Cincinnati, Cincinnati, Ohio.*

157. Some temperature relations of fish. F. E. J. FRY (introduced by EDGAR C. BLACK). *Dept. of Zoology, Univ. of Toronto, Toronto, Ontario, Canada.*

158. Interspecific and intraspecific variation of lethal temperatures in fish. J. S. HART (introduced by RICHARD BERNARD). *Ontario Fisheries Research Lab., Univ. of Toronto, Toronto, Ontario, Canada.*

159. Temperature and metabolism in some Wisconsin mammals. PETER R. MORRISON AND FRED A. RYSER (introduced by C. N. WOOLSEY). *Depts. of Zoology and Physiology, Univ. of Wisconsin, Madison.*

160. Comparative study of complex breathing cycles in terrestrial mammals. F. H. MCCUTCHEON (introduced by RAYMOND W. ROOT). *School of Veterinary Medicine, Univ. of Pennsylvania, Philadelphia.*

161. Lamprey hemoglobin. AUSTEN RIGGS* AND GEORGE WALD. *Biological Labs., Harvard Univ., Cambridge, Mass.*

162. Hemoglobin oxygen affinities in blood of various vertebrate animals. F. G. HALL. *Duke Univ. School of Medicine, Durham, N. C.*

163. Nitrogen tension in swimbladder of marine fishes in relation to depth. P. F. SCHOLANDER. *Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

164. Histo-physiology of teleostean physoclistus swimbladder. D. EUGENE COPELAND (introduced by JOHN R. MURLIN). *Arnold Lab., Brown Univ., Providence, R. I.*

165. Nature of hibernation of bats. RAYMOND J. HOCK (introduced by LAURENCE IRVING). *Arctic Health Research Center, Anchorage, Alaska.*

Tuesday Afternoon, May 1, 1:15 p.m.

Gastrointestinal: Gastric Secretion, etc.

TUESDAY, 1:15 P.M.—ARENA STAGE

Chairman: Warren Rehm

166. Preference for methionine-supplemented casein (versus unsupplemented casein) by rats on a self-selection regime. ERRETT C. ALBRITTON, LOUIS P. MUNAN* AND HENRY L. MCCORKLE.* *Dept. of Physiology, George Washington Univ. School of Medicine, Washington, D. C.*

167. Stimulation of acid secretion by infusion of acetylcholine into arteries of fundus of the stomach. LEO PEVSNER (introduced by GLADYS BUCHER). *Dept. of Clinical Science, Univ. of Illinois College of Medicine, Chicago.*

168. Effect of autonomic blocking agents on gastric secretion in the rat. HARRY SHAY, MARGOT GRUENSTEIN* AND WILLIAM JAMISON.* *Fels Research Inst., Temple Univ. School of Medicine, Philadelphia, Pa.*

169. Acid secretion and acetoacetate utilization in mouse stomachs in vitro. HORACE W. DAVENPORT AND VIRGINIA J. CHAVRE.* *Dept. of Physiology, Univ. of Utah College of Medicine, Salt Lake City.*

170. Effect of 3-β-aminoethylpyrazole dihydrochloride on gastric secretion in dogs. C. E. ROSIERE* AND M. I. GROSSMAN. *Dept. of Clin. Science, Univ. of Illinois College of Medicine, Chicago.*

171. Gastric reabsorption of hydrogen ion as mechanism reducing acidity of parietal secretion. M. H. F. FRIEDMAN. *Dept. of Physiology, Jefferson Med. College, Philadelphia, Pa.*

172. Caffeine potentiation of gastric secretory response to maximal histamine stimulation, or to electrical stimulation of vagus nerves. JAMES L. A. ROTH AND DAVID C. H. SUN.* *Dept. of Gastroenterology, Graduate School of Medicine, Univ. of Pennsylvania, Philadelphia.*

173. Inhibition of histamine induced gastric acid secretion by irrigation of antihistaminics into gastric pouches in dogs. CHARLOTTE ROBERTSON (introduced by R. GRANT). *Dept. of Clin. Science, Univ. of Illinois College of Medicine, Chicago.*

174. Effect of banthine upon gastric secretion and peptic ulcer—an experimental study. LESTER R. SAUVAGE* AND HENRY N. HARKINS. *Dept. of Surgery, Univ. of Washington School of Medicine, Seattle.*

175. Some properties of cell-free gastric mucus. HENRY D. JANOWITZ* AND FRANKLIN HOLLANDER. *Gastroenterology Research Lab., Mount Sinai Hosp., New York City.*

176. Secretin inactivation by serum. W. A. CLAY (introduced by W. J. SNAPE). *Dept. of Physiology, Jefferson Med. College, Philadelphia, Pa.*

177. Does vagus excitation liberate pyloric gastrin? ROBERT K. S. LIM AND PHILLIP MOZER.* *Dept. of Physiology, Creighton Univ. Med. School, Omaha, Nebr.*

Neurophysiology: Cerebrum, etc.

TUESDAY, 1:15 P.M.—LITTLE THEATRE

Chairman: Clinton Woolsey

178. Development of a cardiac reflex to time intervals. W. HORSLEY GANTT, W. A. GAKENHEIMER* AND ALBERT STUNKARD.* *Phipps Clinic, Johns Hopkins Univ., Baltimore, Md.*

179. Analysis of 'psychomotor' seizure discharges in rabbits. J. E. P. TOMAN. *Dept. of Pharmacology, Abbott Labs., North Chicago, Ill.*

180. New operational procedures in study of cerebral cortex. BERRY CAMPBELL. *Dept. of Anatomy, Univ. of Minnesota, Minneapolis.*

181. Problems concerning functions of frontal agranular cortex. A. J. BERMAN, FRANKLIN ROBINSON AND KARL H. PRIBRAM (introduced by JOHN F. FULTON). *Lab. of Physiology, Yale Univ. School of Medicine, New Haven, Conn.*

182. Motor representation within sulci of cat's frontal lobe as studied by chronic implanted electrodes. JOSE M. R. DELGADO (introduced by ROBERT B. LIVINGSTON). *Lab. of Physiology, Yale Univ. School of Medicine, New Haven, Conn.*

183. Stimulation and elimination of anterior thalamic nuclei in man and cat. H. BAIRD,* B. GUIDETTI*, V. REYES*, H. T. WYCIS* AND E. A. SPIEGEL. *Depts. of Experimental Neurology and Pediatrics, Temple Univ. School of Medicine and St. Christopher's Hospital for Children, Philadelphia, Pa.*

184. Sensory interaction. V. E. AMASSIAN (introduced by T. C. RUCH). *Dept. of Phsyiology and Biophysics, Univ. of Washington School of Medicine, Seattle.*

185. Equipotential maps of posterior ectosylvian area and acoustic I and II of cat during responses and spontaneous activity. JOHN C. LILLY. *E. R. Johnson Fndn., Univ. of Pennsylvania, Philadelphia.*

186. Cortical projection of postural impulses. WALTER A. MICKLE* AND HARLOW W. ADES. *Dept. of Anatomy, Emory Univ., Ga.*

187. Concerning sensory mechanisms in hippocampus, cingulate gyrus and cerebellum of the cat. FRANKLIN ROBINSON AND MARGARET A. LENNOX (introduced by DONALD H. BARRON). *Lab. of Physiology and Dept. of Psychiatry and Mental Hygiene, Yale Univ. School of Medicine, New Haven, Conn.*

188. Cessation of spontaneous walking elicited by stimulation of various subcortical structures in the unanesthetized dog. GEORGE CLARK, S. E. GOLDBERG* AND M. G. GOLDSBAND.* *Dept. of Anatomy, Chicago Med. School, Chicago, Ill.*

Blood Volume: Regulation, Hemorrhage, Infusions, Shock

TUESDAY, 1:15 P.M.—MUSIC HALL

Chairman: H. S. Mayerson

189. Certain hemodynamic factors concerned with control of blood volume. J. P. HENRY AND O. H. GAUER.* *Aero Med. Lab., Air Material Command, Wright-Patterson Air Force Base, Dayton, Ohio.*

190. Participation of veins in active regulation of circulation. LYSLE H. PETERSON. *Dept. of Physiology, Univ. of Pennsylvania Med. School, Philadelphia.*

191. Hemodynamic changes resulting from insertion of a rotometer in venous circulation of a dog. EDWIN L. SMITH AND RUSSELL A. HUGGINS. *Dept. of Physiology, Univ. of Texas Dental School, and Dept. of Pharmacology, Baylor Univ. College of Medicine, Houston, Texas.*

192. Spectrophotometric studies of dye-albumin complexes. PHILIP DOW. *Dept. of Physiology, Med. College of Georgia, Augusta.*

193. An index to available reserve bleeding volume. JOHN W. REMINGTON. *Dept. of Physiology, Med. College of Georgia, Augusta.*

194. Rapid, massive intravenous infusions of 'normal saline' in dogs. GORDON F. VAWTER,* C. BRUCE TAYLOR* AND JOHN P. MARBARGER. *Aeromedical and Physical Environment Lab. Univ. of Illinois, and Dept. of Pathology, Presbyterian Hosp., Chicago, Ill.*

195. Mechanism of interstitial protein mobilization by saline infusion. KARLMAN WASSER-

MAN* AND H. S. MAYERSON. *Dept. of Physiology, School of Medicine, Tulane Univ., New Orleans, La.*

196. Factors concerned in compensatory vascular readjustment to hemorrhagic shock. B. W. ZWEIFACH, S. BAEZ AND EPHRAIM SHORR. *Dept. of Medicine, Cornell Univ. Med. College, and New York Hosp., New York City.*

197. Traumatic shock in mice. Hemodynamic effects of therapy and their correlation with mortality. SANFORD M. ROSENTHAL AND R. CARL MILLICAN.* *Natl. Insts. of Health, Bethesda, Md.* (Pharmacol.)

198. Effect of variation in size of shock dose of antigen in canine anaphylaxis. PARKE H. WOODARD (introduced by O. O. STOLAND). *Dept. of Physiology, Univ. of Kansas, Lawrence.*

Kidney: Circulatory Aspects, etc.

TUESDAY, 1:15 P.M.—MUSIC HALL FOYER

Chairman: E. H. Selkurt

199. Technique for perfusion of isolated kidney. SHERMAN KUPFER (introduced by ROBERT M. BIRD). *Dept. of Physiology, Cornell Univ. Med. College, New York City.*

200. Attempts to produce shunting of blood from the canine and leporine renal cortex. N. S. R. MALUF. *Dept. of Pharmacology, Univ. of Louisville School of Medicine, and Brooke General Hosp., Louisville, Ky.*

201. Parallelism of blood flow in renal cortex and medulla. ALLEN M. SCHER (introduced by LOREN D. CARLSON). *Lab. of Physiology, Yale Univ. School of Medicine, New Haven, Conn., and Dept. of Physiology and Biophysics, Univ. of Washington School of Medicine, Seattle.*

202. Effect of pulse pressure and mean arterial pressure modification on renal function. EWALD E. SELKURT. *Dept. of Physiology, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

203. Disorders of renal function produced by cerebral stimulation. E. C. HOFF AND J. F. KELL, JR.* *Neurological Science Lab., Med. College of Virginia, Richmond.*

204. Effect of stimulation of renal nerves on renal circulation and function. MELVIN A. BLOCK, KHALIL G. WAKIM AND FRANK C. MANN. *Div. of Exptl. Medicine, Mayo Fndn., and Mayo Clinic, Rochester, Minn.*

205. Renal function following coarctation of aorta in dogs. F. J. KOTTKE, W. G. KUBICEK AND R. L. VARCO.* *Div. of Physical Medicine and Dept. of Surgery, Univ. of Minnesota Med. School, Minneapolis.*

206. Effect of reduced cardiac output on denervated kidney. ROBERT M. BERNE (introduced by CARL J. WIGGERS). *Dept. of Physiology, Western Reserve Univ. Med. School, Cleveland, Ohio.*

207. Renal function and metabolic balances in dogs with experimental pericarditis. JAMES O. DAVIS, ALAN E. LINDSAY AND JAMES L. SOUTHWORTH (introduced by ROBERT W. BERLINER). *Natl. Insts. of Health, Bethesda, Md., and U. S. Marine Hosp., Baltimore, Md.*

208. Relation of intrarenal pressure to blood pressure and to perinephritic hypertension. H. G. SWANN AND J. M. PRINE.* *Carter Physiology Lab., Univ. of Texas Med. Branch, Galveston.*

209. Further studies on mechanism of antidiuretic action of crystalline ferritin in dogs. S. BAEZ, A. MAZUR AND EPHRAIM SHORR. *Dept. of Medicine, Cornell Univ. Med. College, and New York Hosp., New York City.*

Radiation Biology

TUESDAY, 1:15 P.M.—SOUTH HALL, ROOM C

Chairman: O. H. Schmitt

210. A continuously recording Geiger counter scanning device for radio chromatographic analysis of labelled antigen-antibody reactions. ROBERT R. WILLIAMS AND ROBERT E. SMITH (introduced by ORR E. REYNOLDS). *Natl. Insts. of Health, Bethesda, Md.*

211. Measurement of skin penetration by use of subcutaneous probe-counter in conjunction with radioisotope labelled material. HYMAN R. GITTES,* E. ROSS HART* AND AMEDEO S. MARRAZZI. *Med. Div., Army Chemical Center, Md.*

212. Some effects of neutron radiation on lens. FRANK B. JOHNSON AND SOLBERT PERMUTT (introduced by ISIDORE GERSH). *Dept. of Anatomy, Univ. of Chicago, Chicago, Ill.* (Pathol.)

213. Cataract induction by slow neutrons and x-rays. K. W. CHRISTENBERRY* AND J. FURTH. *Oak Ridge Natl. Lab., Oak Ridge, Tenn.* (Pathol.)

214. A new sign of severe radiation injury observed in the erythrocyte sedimentation of dogs. G. A. SACHER, M. N. SWIFT AND J. GURIAN (introduced by H. M. PATT). *Argonne Natl. Lab., Chicago, Ill., and Naval Radiological Defense Lab., San Francisco, Calif.*

215. Circulating blood cells following radiation in hibernating wood-chuck. FALCONER SMITH AND MARIE M. GRENAN.* *National Insts. of Health, Bethesda, Md.*

216. Lack of an oxygen effect in disturbance by x-rays of selective potassium accumulation in human erythrocytes in vitro. C. W. SHEPPARD AND MARIAN STEWART.* *Oak Ridge Natl. Lab., Oak Ridge, Tenn.*

217. Acute intestinal radiation death. HENRY QUASTLER. (introduced by R. E. JOHNSON). *Univ. of Illinois, Urbana.*

218. Effects of a single whole-body exposure to deuteron beam on blood and tissues of white mouse. PAUL D. ROSAHN, CORNELIUS A. TOBIAS* AND JOHN H. LAWRENCE.* *Radiation Lab. and Donner Lab. of Med. Physics, Univ. of California, Berkeley.* (Pathol.)

219. Changes in plasma phospholipides following whole body x-irradiation. RICHARD A. NEVÉ AND CECIL ENTENMAN (introduced by MICHAEL B. SHIMKIN). *U. S. Naval Radiological Defense Lab., San Francisco, Calif.* (Pathol.)

220. Effect of ultraviolet radiation upon incidence of spontaneous mammary tumors in mice. JANET HOWELL CLARK. *Dept. of Biology, Univ. of Rochester, Rochester, N. Y.*

221. Effects of ultrasonic energy on growing bone. J. F. HERRICK, R. E. DEFOREST,* J. M. JANES* AND F. H. KRUSEN.* *Mayo Fndn., Rochester, Minn.*

Comparative Physiology

TUESDAY, 1:15 P.M.—EXHIBIT HALL, ROOM A

Chairman: C. A. G. Wiersma

222. Transformation of hexosephosphates by the cockroach. C. C. HASSETT. *Med. Div., Army Chemical Center, Md.*

223. Flight motor of Diptera. EDWARD BOETTIGER AND EDWIN FURSHPAN.* *Dept. of Zoology, Univ. of California, Berkley.*

224. Limiting mechanism in tarsal chemoreception. V. G. DETHIER. *Dept. of Biology, Johns Hopkins Univ., Baltimore, Md.*

225. Relation of motor to secretory function in stomach of fish. T. L. PATTERSON. *Hopkins Marine Station, Stanford Univ., Pacific Grove, Calif., and Wayne Univ. College of Medicine, Detroit, Mich.*

226. Sodium flux through fish gills. DALLAS K. MEYER (introduced by M. M. ELLIS). *Dept. of Physiology and Pharmacology, Univ. of Missouri Med. School, Columbia.*

227. Variation in phosphorus compound during adult development of the blowfly, *Calliphora erythrocephala.* L. LEVENBOOK (introduced by CARROLL M. WILLIAMS) *Biological Labs., Harvard Univ., Cambridge, Mass.*

228. Nucleic acid and phosphate changes following sinus gland removal. ELOISE KUNTZ (introduced by RUTH CONKLIN) *Marine Biological Lab., Woods Hole, Mass., and Vassar College, Poughkeepsie, N. Y.*

229. Biochemistry of Citellus. XAVIER J. MUSACCHIA* AND CHARLES G. WILBER. *Biological Labs., St. Louis Univ., St. Louis, Mo.*

230. Use of a new respirometer in studying effects of adrenocortical extract on total metabolism. THOMAS B. CALHOON* AND CLIFFORD A. ANGERER. *Dept. of Physiology, Ohio State Univ., Columbus.*

231. Effects of estrogens and thyroxine upon plasma proteins, blood volume and hematocrit of the fowl. PAUL D. STURKIE. *Lab. of Avian Physiology, Rutgers Univ., New Brunswick, N. J.*

Federation Discussion Meeting

Open to Members of all Societies

TUESDAY, 4:00 P.M.—MUSIC HALL

Wednesday Morning, May 2, 9:00 a.m.

Heart: Electrical Changes, ECG

WEDNESDAY, 9:00 A.M.—ARENA STAGE

Chairman: Ashton Graybiel

232. Physiological aspects of electron-histology of the heart. BRUNO KISCH. *Mt. Sinai Hosp., New York City.*

233. Role of temperature gradients within ventricular muscle in genesis of the normal T wave of electrocardiogram and ventricular gradient responsible for it. EUGENE LEPESCHKIN (introduced by A. H. CHAMBERS). *Div. of Exptl. Medicine, Univ. of Vermont, Burlington.*

234. T deflection of electrogram of heart muscle. SOLOMON GARB (introduced by MCKEEN CATTELL). *Dept. of Pharmacology, Cornell Univ. Med. College, New York City.*

235. Membrane potentials of cat auricle and their response to parasympathomimetic drugs. A. S. V. BURGEN AND K. G. TERROUX.* *Dept. of Physiology, McGill Univ., Montreal, Quebec, Canada.*

236. Effect of acetylcholine and of vagal inhibition on the demarcation potential of the turtle heart. A. S. GILSON, JR. *Dept. of Physiology, Washington Univ. School of Medicine, St. Louis, Mo.*

237. Electrocardiographic effects of vagal stimulation. J. C. SCOTT AND E. A. REED. *Dept. of Physiology, Hahnemann Med. College, Philadelphia, Pa.*

238. Experimental validity test of electrocardiographic dipole hypothesis and central terminal theory. OTTO H. SCHMITT, RAPHAEL B. LEVINE* AND ERNST SIMONSON. *Univ. of Minneosta, Minneapolis.*

239. Interpretation of electrocardiographic mirror patterns. ERNST SIMONSON, OTTO H. SCHMITT, RAPHAEL B. LEVINE* AND ANCEL KEYS. *Dept. of Physiological Hygiene and Biophysics, Univ. of Minnesota, Minneapolis.*

240. Effect of sodium deficient perfusates on cardiac injury potential. P. F. CRANEFIELD,* J. A. E. EYSTER, AND W. E. GILSON.* *Dept. of Physiology, Univ. of Wisconsin, Madison.*

241. Genesis of electrocardiographic pattern of digitalis. H. LEVINE,* H. M. GELLER,* R. S. SIKAND* AND L. H. NAHUM (introduced by J. S. NICHOLAS). *Lab. of Physiology, Yale Univ. School of Medicine, New Haven, Conn.*

242. Right and left part-electrocardiogram of fetal heart. FRANZ M. GROEDEL AND MAX MILLER.* *Madison Ave. Hosp., New York City.*

Neurophysiology: Sense Organs

WEDNESDAY, 9:00 A.M.—LITTLE THEATRE

Chairman: Robert Galambos

243. Subjective appraisal of comfortable brightness relationships. SYLVESTER K. GUTH AND A. A. EASTMAN (introduced by JOSEF BROŽEK). *Lamp Dept., General Electric Co., Nela Park, Cleveland, Ohio.*

244. Retinal potentials during metabolic impairment. WERNER K. NOELL. *USAF School of Aviation Medicine, Randolph Field, Texas.*

245. Subliminal excitation and refractoriness in single photoreceptor elements. H. G. WAGNER,* H. K. HARTLINE AND I. H. WAGMAN. *Jenkins Labs. of Biophysics, Johns Hopkins Univ., and Dept. of Physiology, Jefferson Med. College, Philadelphia, Pa.*

246. Effect of antihistaminic agents on nystagmus. J. E. HAWKINS, JR. AND W. J. O'SHANNY.* *Merck Inst. for Therapeutic Research, Rahway, N. J.*

247. Frequency localization in the cochlear nucleus. R. GALAMBOS, JERZY E. ROSE AND J. R. HUGHES. **Psycho-Acoustic Lab., Harvard Univ., Cambridge, Mass., and Dept. of Psychiatry, Johns Hopkins Univ., Baltimore. Md.*

248. Hearing loss after experimental injury to apex of cochlea. H. F. SCHUKNECHT* AND W. D. NEFF. *Div. of Otolaryngology and Lab. of Physiological Psychology, Univ. of Chicago, Chicago, Ill.*

249. A statistical model for neural responses to acoustic clicks. WALTER A. ROSENBLITH* AND WILLIAM J. MCGILL* (introduced by S. S. STEVENS). *Psycho-Acoustic Lab., Harvard Univ., Cambridge, Mass.*

250. Discrimination of interaural time-differences at the auditory cortex. MARK R. ROSENZWEIG (introduced by J. C. R. LICKLIDER). *Psycho-Acoustic Lab., Harvard Univ., Cambridge, Mass.*

251. Response of Pacinian corpuscle to oscillatory stimulation. DONALD SCOTT, JR. *Dept. of Anatomy, School of Medicine, Univ. of Pennsylvania, Philadelphia.*

252. Threshold and discrimination of differences in intensity of stimulus for deep pain. JAMES D. HARDY, HAROLD G. WOLFF AND HELEN GOODELL.* *Depts. of Physiology and Medicine, Cornell Univ. Med. College, New York City.*

253. Subcortical localization of certain 'taste'

responses in the cat. MARTIN B. MACHT. *Dept. of Pharmacology, Univ. of Cincinnati College of Medicine, Cincinnati, Ohio.*

Circulation: Pulmonary, Portal, Hepatic

WEDNESDAY, 9:00 A.M.—MUSIC HALL

Chairman: A. F. Cournand

254. Influence of alterations in pulmonary arterial CO_2 on pulmonary volume and blood flow. JOHN W. BEAN AND W. PORTER MAYO.* *Dept. of Physiology, Univ. of Michigan, Ann Arbor.*

255. Effect of hypoxia on pulmonary vascular pressures in man. JOSEPH T. DOYLE,* JOSEPH S. WILSON* AND JAMES V. WARREN. *Emory Univ. School of Medicine, Atlanta, Ga.*

256. Demonstration of differential effects on pulmonary and systemic arterial pressure induced by breathing low-oxygen mixtures. HOWARD B. BURCHELL AND EARL H. WOOD. *Mayo Fndn., Rochester, Minn.*

257. Effect of hypoxia and oxygen poisoning on pulmonary edema. ALLAN HEMINGWAY. *Dept. of Physiology, Univ. of Minnesota, Minneapolis.*

258. Massive pulmonary edema of central nervous system origin: hemodynamic observations and the role of sympathetic pathways. STANLEY J. SARNOFF. *Dept. of Physiology, Harvard School of Public Health, Boston, Mass.*

259. Blood pooling in acute portal hypertension. ROBERT S. ALEXANDER, W. STERLING EDWARDS* AND JAY L. ANKENEY.* *Dept. of Physiology, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

260. Influence of hepatic blood flow upon resistance to prolonged arterial hypotension. HOWARD WAYNE,* J. T. JOYNER, JR.,* WILLIAM MCCALL* AND HAROLD D. GREEN. *Dept. of Physiology and Pharmacology, Bowman Gray School of Medicine, Winston-Salem, N. C.*

261. Evaluation of hepatic blood flow in the dog. ATTIE YVONNE WERNER* AND STEVEN M. HORVATH. *Dept. of Physiology, State Univ. of Iowa, Iowa City.*

262. Entero-hepatic circulation of bromsulphalein: observations on hepatic, portal and arterial dye concentrations after intra-duodenal and intra-portal bromsulphalein administration. STANLEY H. LORBER,* HARRY SHAY AND HERMAN SIPLET.* *Fels Research Inst. and Dept. of Physiology, Temple Univ. School of Medicine, Philadelphia, Pa.*

Temperature Regulation

WEDNESDAY, 9:00 A.M.—MUSIC HALL FOYER

Chairman: Alan C. Burton

MEMORIAL SESSION

Professor Henry Cuthbert Bazett

JUNE 25, 1885—JULY 11, 1950

Elected President of the American Physiological Society, April 1950

263. Address by the Chairman.

264. A theory of reflex control of temperature at rest and during exercise. H. C. Bazett (paper will be given by LYSLE H. PETERSON). *Dept. of Physiology, Med. School, Univ. of Pennsylvania, Philadelphia.*

265. Temperature sensation in ventilated suits. R. THAUER, H. R. GREIDER,* AND J. V. CORREALE.* *Aero-Med. Equipment Lab., Philadelphia, Pa.*

266. Regional rates of cutaneous insensible perspiration. C. N. PEISS,* A. B. HERTZMAN, W. C. RANDALL, H. E. EDERSTROM. *Dept. of Physiology, St. Louis Univ. School of Medicine, St. Louis, Mo.*

267. Dermatomal recruitment of sweating in response to heat. W. C. RANDALL, A. B. HERTZMAN AND H. E. EDERSTROM. *Dept. of Physiology, St. Louis Univ. School of Medicine, St. Louis, Mo.*

268. Blood flows in hyperthermic dog following cord section and lumbar sympathectomy. H. E. EDERSTROM. *Dept. of Physiology, St. Louis Univ. School of Medicine, St. Louis, Mo.*

269. Measurement of radiant heat load on man in outdoor environment. ALICE M. STOLL (introduced by E. F. DU BOIS). *Dept. of Physiology, Cornell Univ. Med. College, New York City.*

270. Transmission and penetration of thermal radiation into the skin. CARL CLARK (introduced by J. O. PINKSTON). *Dept. of Physiology, Cornell Univ. Med. College, New York City.*

271. Relationship between hypothalamic temperature and thermoregulatory effectors in unanesthetized cat. R. E. FORSTER, II, AND T. B. FERGUSON (introduced by E. M. LANDIS). *Dept. of Physiology, Harvard Med. School, Boston, Mass.*

272. Thermoregulatory thresholds in thyroidectomized rabbits. RONALD GRANT. *Dept. of Physiology, Stanford Univ., Calif.*

273. Failure of 2,4-dinitrophenol to augment anaerobic glycolysis in rat cerebral cortex slices. JOHN FIELD, C. N. PEISS* AND VICTOR

E. HALL. *Dept. of Physiology, Stanford Univ. School of Medicine, Stanford, Calif.*

Radiation Biology

WEDNESDAY, 9:00 A.M.—BALLROOM

Chairman: Alexander Hollaender

274. Potassium tolerance following irradiation. WILLIE W. SMITH. *Natl. Insts. of Health, Bethesda, Md.*

275. Further study of permeability of urinary bladder to radioactive mercury, calcium and sulfur. L. E. BURGESS,* D. T. ROLFE, P. F. HAHN, E. E. HOLMES,* AND E. L. CAROTHERS.* *Dept. of Physiology and Cancer Research Lab., Meharry Med. College, Nashville, Tenn.*

276. Effect of x-radiation on fermentation of glucose by low and high nitrogen yeast. F. G. SHERMAN. *Biology Dept., Brown Univ., Providence, R. I.*

277. Decomposition products of irradiation of purines and pyrimidines. ATTILIO CANZANELLI AND DAVID RAPPORT. *Dept. of Physiology, Tufts College Med. School, Boston, Mass.*

278. Response of *Chilomonas paramecium* to ionizing radiation. HOWARD S. DUCOFF* AND JOHN O. HUTCHENS. *Argonne Natl. Lab., and Dept. of Physiology, Univ. of Chicago, Chicago, Ill.*

279. Adrenal cortical requirements of adrenalectomized, x-irradiated rats. SEYMOUR KATSH AND ABRAHAM EDELMANN (introduced by LESLIE F. NIMS). *Biology Dept., Brookhaven Natl. Lab., Upton, L. I., N. Y.*

280. Survival of rats adrenalectomized after x-irradiation. ABRAHAM EDELMANN AND SEYMOUR KATSH.* *Biology Dept., Brookhaven Natl. Lab., Upton, L. I., N. Y.*

281. Pituitary and adrenal ascorbic acid in x-irradiated rats. K. D. VENTERS* AND E. E. PAINTER. *Univ. of Illinois, College of Medicine, Chicago, Ill.*

282. Effects of dibenamine and cortin upon composition of blood plasma during the acute radiation syndrome. HENRY I. KOHN. *Natl. Cancer Inst., Bethesda, Md.*

283. Study of protective action of some sulfur-containing and sulfur-free compounds against x-ray damage in bacteria. W. T. BURNETT,* G. E. STAPLETON* AND A. HOLLAENDER. *Biology Div., Oak Ridge Natl. Lab., Oak Ridge, Tenn.*

284. Effect of terramycin on acute radiation syndrome in dogs. J. W. HOWLAND, F. W. FURTH* AND M. P. COULTER.* *Univ. of Rochester, Atomic Energy Project, Rochester, N. Y.*

285. Protection of mice from lethal effects of x-radiation with intravenous injection of methylene blue. B. VINCENT HALL (introduced by DOUGLAS E. SMITH). *Biological and Med. Div., Argonne Natl. Lab., Chicago, and Dept. of Zoology, Univ. of Illinois, Urbana.*

Wednesday Afternoon, May 2, 1:15 p.m.

Endocrines: Gonads, Steroids, etc.

WEDNESDAY, 1:15 P.M.—ARENA STAGE

Chairman: D. J. Ingle

286. Clearance of potassium estrone sulfate from the blood following intravenous injection. A. E. RAKOFF AND MONA L. GROSS (introduced by I. J. PINCUS). *Jefferson Med. College, Philadelphia, Pa.*

287. Estrogen secretion by the testes. WARREN O. NELSON. *College of Medicine, Univ. of Iowa, Iowa City.*

288. Species differences in effects of progesterone-testosterone propionate combinations on reproductive tracts of castrate female opossum and albino rat. CHARLES F. MORGAN. *Dept. of Physiology, Georgetown Med. School, Washington, D. C.*

289. Possible sources of relaxin in the rabbit. M. X. ZARROW. *Dept. of Biological Science, Purdue Univ., Lafayette, Ind.*

290. Influence of adrenal on response of rat mammary gland to ovarian steroids and relaxin. THOMAS C. SMITH (introduced by G. H. PARKER). *Biological Labs., Harvard Univ., Cambridge, Mass.*

291. Influence of estrogen on Hooker-Forbes assay for progesterone. H. A. SALHANICK,* A. G. OLSEN* AND F. L. HISAW. *Dept. of Biological Chemistry, Univ. of Utah School of Medicine, Salt Lake City, and Biological Labs., Harvard Univ., Cambridge, Mass.*

292. Inhibition of progestational reactions in uterus of laboratory animals by aminopterin. C. T. G. KING AND JOSEPH T. VELARDO (introduced by E. H. FRIEDEN). *Children's Med. Center and Children's Cancer Research Fndn., Boston, Mass., and Harvard Biological Labs., Cambridge, Mass.* (Biochem.)

293. Further evidence of an inverse relation between bodyweight and fecundity in rats. A. J. CARLSON AND F. HOELZEL.* *Dept. of Physiology, Univ. of Chicago, Chicago, Ill.*

294. Lipids in human cervical mucus. MARY ALICE B. BRECKENRIDGE* AND W. T. POMMERENKE.

Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.

295. Fluorimetric determination of steroids in minute quantities. CHIADAO CHEN* (introduced by W. B. BRADLEY). *Dept. of Exptl. Medicine, Northwestern Univ. Med. School, Chicago, Ill.*

296. Urinary 17-ketosteroids in chronic liver disease. A. CANTAROW, K. E. PASCHKIS, T. L. WILLIAMS* AND W. P. HAVENS, JR.* *Jefferson Med. College, Philadelphia, Pa.*

Neurophysiology: Nerve, Ganglia

WEDNESDAY, 1:15 P.M.—LITTLE THEATRE

Chairman: David Nachmansohn

297. Effect of heat and ultrasound on conduction in bullfrog nerve. E. H. LAMBERT, W. J. TREANOR* AND J. F. HERRICK. *Mayo Fndn., Rochester, Minn.*

298. Effects of beta rays on mammalian nerve action potentials. EDGAR L. GASTEIGER (introduced by BERRY CAMPBELL). *Dept. of Anatomy, Univ. of Minnesota, Minneapolis.*

299. Ultrastructure and function in nerve. JULIAN M. TOBIAS AND SIDNEY SOLOMON.* *Dept. of Physiology, Univ. of Chicago, Chicago, Ill.*

300. On the mechanism connecting impulse conduction and oxygen metabolism in peripheral nerve. D. W. BRONK AND F. BRINK. *Jenkins Labs. of Biophysics, Johns Hopkins Univ., Baltimore, Md.*

301. Dependence of steady-state rate of oxygen metabolism on frequency of conducted impulses in peripheral nerve. F. D. CARLSON* AND F. BRINK. *Jenkins Labs. of Biophysics, Johns Hopkins Univ., Baltimore, Md.*

302. Kinetics of increased oxygen consumption of activity in frog nerve. C. M. CONNELLY (introduced by P. W. DAVIES). *Jenkins Labs. of Biophysics, Johns Hopkins Univ., Baltimore, Md.*

303. Further observations on local responses of single medullated fibers in frog's phalangeal nerve. GORDON M. SCHOEPFLE AND JOSEPH ERLANGER. *Dept. of Physiology, Washington Univ. School of Medicine, St. Louis, Mo.*

304. Potassium movement and nerve activity. ABRAHAM M. SHANES. *National Insts. of Health, Bethesda, Md.*

305. A contribution to the problem of nerve sheath as a barrier to action of certain substances. FREDERICK CRESCITELLI. *Dept. of Zoology, Univ. of California, Los Angeles.*

306. Electrical activity of a simple ganglion. J. H. WELSH AND D. M. MAYNARD, JR.* *Harvard Univ., Cambridge, Mass.*

307. Glucose requirements of sympathetic ganglia. MARTIN G. LARRABEE, CHARLES EDWARDS* AND JUAN GARCIA RAMOS.* *Biophysics Labs., Johns Hopkins Univ. and Hospital, Baltimore, Md.*

308. Synaptic inhibitory action of adrenaline at parasympathetic synapses. CAROLINE TUM SUDEN AND AMEDEO S. MARRAZZI. *Med. Div., Army Chemical Center, Md.*

Blood Pressure, Hypertension

WEDNESDAY, 1:15 P.M.—MUSIC HALL

Chairman: Arthur C. Guyton

309. Effect of psycho-motor stress on blood pressure of normal dogs. C. M. WILHELMJ, T. MCGUIRE* AND E. B. WALDMANN.* *Dept. of Physiology and Pharmacology, Creighton Univ. School of Medicine, Omaha, Nebr.*

310. Variations in hyperdynamic cardiovascular response to stress among hypertensive subjects. JOHN T. FLYNN* AND STEWART WOLF. *New York Hospital, Cornell Med. Center, New York City.*

311. Production of hypertension in the rat by parabiosis. C. E. HALL AND O. HALL.* *Carter Physiology Lab., Univ. of Texas Med. Branch, Galveston.*

312. Basis for experimental renal hypertension. PHILIP HANDLER AND FREDERICK BERNHEIM. *Depts. of Biochemistry and Nutrition and of Physiology and Pharmacology, Duke Univ. School of Medicine, Durham, N. C.* (Biochem.)

313. Regional vasomotor tone in normotensive and hypertensive dogs. ARNOLD H. WILLIAMS* AND HENRY A. SCHROEDER. *Dept. of Internal Medicine, Washington Univ. School of Medicine, St. Louis, Mo.*

314. Assay of biological activity of steroids by determination of renin-substrate (hypertensinogen). O. M. HELMER AND R. S. GRIFFITH.* *Lilly Lab. for Clin. Research, General Hospital, Indianapolis, Ind.* (Biochem.)

315. Sympathomimetic and DCA pressor effects weakened by sodium-poor diet. W. RAAB, R. J. HUMPHREYS* AND E. LEPESCHKIN.* *Univ. of Vermont Med. College, Burlington.*

316. Oxidations mediated by normotensive and hypertensive tissues. NORMAN S. OLSEN. *Washington Univ. School of Medicine, St. Louis, Mo., and Thayer VA Hospital, Nashville, Tenn.*

317. Prophylaxis of experimental renal malignant hypertension with crude and semi-purified hog renins. RICHARD O. BURNS, JR,* BESS G. OSGOOD* AND G. E. WAKERLIN. *Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago, Ill.*

318. Effect of veratrone on blood pressure and renal hemodynamics of normal and hypertensive dogs. WILLIAM C. NUNGESSER* AND EDWIN P. HIATT. *Depts. of Physiology and*

Pharmacology, Univ. of North Carolina School of Medicine, Chapel Hill.

Kidney: Water and Electrolytes, etc.

WEDNESDAY, 1:15 P.M.—MUSIC HALL FOYER

Chairman: J. H. Wills

319. Physiological changes induced by high fluid intakes. J. H. HOLMES AND A. V. MONTGOMERY.* *Depts. of Medicine and Physiology, Univ. of Colorado School of Medicine, Denver.*
320. Post-natal development of water diuresis in rats. GERTRUDE FALK (introduced by E. F. ADOLPH). *Dept. of Physiology, Univ. of Rochester, Rochester, N. Y.*
321. Sodium homeostasis in hypophysectomized dogs. D. H. SIMMONS, R. B. HARVEY, T. HOSHIKO AND D. FERGUSON (introduced by M. B. VISSCHER). *Dept. of Physiology, Univ. of Minnesota, Minneapolis.*
322. Effect of alterations of renal arterial pressure on sodium and water excretion. DAVID D. THOMPSON* AND ROBERT F. PITTS. *Dept. of Physiology, Cornell Univ. Med. College, New York City.*
323. Effect of adrenaline on renal excretion of water and sodium. WILLIAM D. BLAKE. *Lab. of Physiology, Yale Univ. School of Medicine, New Haven, Conn.*
324. Effects of adrenal medullary hormones on blood and urinary chloride levels during water diuresis. W. J. EVERSOLE. *Dept. of Zoology, Syracuse Univ., Syracuse, N. Y.*
325. Effects of cortisone and desoxycorticosterone acetate in adrenalectomized dogs. KATHLEEN E. ROBERTS (introduced by WILLIAM D. LOTSPEICH). *Dept. of Physiology, Cornell Univ. Med. College, New York City.*
326. Alteration of diuretic response to salyrgan by anoxia and ACTH. D. R. AXELROD (introduced by JOHN MACLEOD). *Dept. of Physiology, Cornell Univ. Med. College, New York City.*
327. Acute renal disease consequent on combined treatment with desoxycorticosterone, sodium chloride and renin. G. M. C. MASSON, A. C. CORCORAN AND I. H. PAGE. *Cleveland Clinic Fndn. and Frank E. Bunts Educational Inst., Cleveland, Ohio.*
328. Removal of fluid from normal and edematous dogs by means of ultrafiltration. JACK R. LEONARDS, LEONARD T. SKEGGS, JR.* AND JOSEPH R. KAHN.* *Depts. of Biochemistry and Pathology, Western Reserve Univ., and VA Hospital, Cleveland, Ohio.* (Biochem.)
329. Rapid depletion of ionic calcium by circulating blood of animals over cationic exchange resins. LELAND C. CLARK, JR.,* FRANK GOLLAN AND RICHARD SMITH.* *Fels Research Inst., Antioch College, Yellow Springs, Ohio.*

Teaching of Physiology: Principles and Methods

WEDNESDAY, 1:15 P.M.—SOUTH HALL, ROOM C

Chairman: H. W. Davenport

330. Development of physiology as an educational discipline. C. I. REED. *Dept. of Physiology, Univ. of Illinois, Chicago, Ill.*
331. Analysis of current physiology teaching programs in medical schools. WILLIAM V. WHITEHORN, ALFRED A. SCHILLER AND JOSEPH E. BOURQUE. *Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago.*
332. Integrated teaching in basic medical sciences. J. H. COMROE, JR. *Graduate School of Medicine, Univ. of Pennsylvania, Philadelphia.*
333. Physiological terms used as subject headings in medical indexes and abstracts. WILLIAMINA A. HIMWICH, S. V. LARKEY* AND HELEN G. FIELD.* *Welch Med. Library, Johns Hopkins Univ., Baltimore, Md.*
334. Graduate training for general and comparative physiologists. CHARLES G. WILBER. *Biological Labs., St. Louis Univ., St. Louis, Mo.*
335. Instruction in the physics of isotopes and their use in biology and medicine. J. P. QUIGLEY. *Dept. of Physiology, Univ. of Tennessee, Memphis.*
336. Demonstration in hemodynamics, especially of streamlined and turbulent flow. ALAN C. BURTON AND W. GERARD.* *Dept. of Biophysics, Med. School, Univ. of Western Ontario, London, Ontario, Canada.*
337. Sound with slides in the teaching of reflex control of breathing. G. N. LOOFBOUROW. *Dept. of Physiology, Univ. of Kansas, Lawrence.*
338. Some suggestions for improvement of methods of teaching physiology of body fluids. SAMUEL A. CORSON, ELIZABETH J. O'LEARY,* AND ABRAHAM L. SIEGEL.* *Dept. of Physiology, Toledo Hospital Inst. of Med. Research, Toledo, Ohio.*
339. A rugged inexpensive respiratory gas analyzer for medical students. ROBERT L. POST. *Dept. of Physiology, Univ. of Pennsylvania, Philadelphia, and of Vanderbilt Univ., Nashville, Tenn.*

General Physiology: Cellular and Enzymes

WEDNESDAY, 1:15 P.M.—EXHIBIT HALL, ROOM C

Chairman: P. F. Scholander

340. Changes in the protoplasmic cortex during cell division. WALTER L. WILSON (introduced

by F. J. M. SICHEL). *Dept. of Physiology and Biophysics, College of Medicine, Univ. of Vermont, Burlington.*

341. Cell division block of sea-urchin (Arbacia) eggs and its reversal by A. T. P. ROBERT C. BARNETT (introduced by FRANKLIN C. MC LEAN). *Marine Biological Lab., Woods Hole, Mass., and Dept. of Physiology, Univ. of Chicago, Chicago, Ill.*

342. Combination of toluidine blue with frog sperm resulting in chromosome damage. ROBERT BRIGGS (introduced by J. A. STEKOL). *Inst. for Cancer Research and Lankenau Hospital Research Inst., Philadelphia, Pa.* (Biochem.)

343. *Neurospora* mutants requiring acetate for growth. JOSEPH LEIN, DOUGLAS C. APPLEBY AND PATRICIA S. LEIN (introduced by ROBERT GAUNT). *Dept. of Zoology, Syracuse Univ., Syracuse, N. Y.*

344. Site of action of ethyl carbamate and sodium azide in living embryonic cell. JOSEPH HALL BODINE. *Dept. of Zoology, State Univ. of Iowa, Iowa City.*

345. Enzymatic adaptation in non-viable cells. S. SPIEGELMAN, L. S. BARON* AND H. QUASTLER.* *Depts. of Bacteriology and Physiology, Univ. of Illinois, Urbana.*

346. Physical state of intracellular catalase. J. G. KAPLAN (introduced by C. B. WELD). *Dept. of Physiology, Dalhousie Univ., Halifax, Nova Scotia, Canada.*

347. Triphosphopyridine nucleotidase. D. R. SANADI (introduced by G. LEPAGE). *Inst. for Enzyme Research, Univ. of Wisconsin, Madison.*

348. Induction of rancidification in liver tissue by organic mercury compounds. REINHOLD BENESCH AND RUTH E. BENESCH (introduced by HENRY B. BULL). *Dept. of Exptl. Medicine, Northwestern Univ. Med. School, Chicago, Ill.*

349. Fatty acid oxidation in liver cyclophorase system. HELMUT BEINERT,* VERNON CHELDELIN AND MARIA FULD.* *Inst. for Enzyme Research, Univ. of Wisconsin, Madison.*

350. Acetaldehyde blood levels in response to tetraethylthiuram disulphide (Antabuse) and anesthetic agents. BETTY M. COOPER,* C. L. CLARK,* L. MISURACA,* H. C. SLOCUM* AND CHARLES R. ALLEN. *Dept. of Anesthesiology, Univ. of Texas Med. Branch, Galveston.*

351. Hydrolysis of ethyl acetoacetate by normal rabbit bone marrow. JOHN D. EVANS (introduced by MORTON J. OPPENHEIMER). *Dept. of Physiology, Cornell Univ. Med. College, New York City, and Dept. of Physiology, Temple Univ. School of Medicine, Philadelphia, Pa.*

Smooth Muscle

WEDNESDAY, 1:15 P.M.—EXHIBIT HALL, ROOM D

Chairman: Samuel Gelfan

352. Utilization of succinate and α-ketoglutarate for contraction energy by intestinal smooth muscle. ROBERT F. FURCHGOTT AND MARILYN WALES.* *Dept. of Pharmacology, Washington Univ., St. Louis, Mo.* (Biochem.)

353. Chemical and physical mechanisms involved in muscular contraction. EMIL BOZLER. *Dept. of Physiology, Ohio State Univ., Columbus.*

354. Propagation in non-striated muscles of invertebrates. C. L. PROSSER, H. J. CURTIS, AND D. E. TRAVIS.* *Marine Biological Lab., Woods Hole, Mass.*

355. Further studies on cooling as a stimulus to smooth muscles. WILLIAM H. JOHNSON* AND JOHN F. PERKINS, JR. *Dept. of Physiology, Univ. of Chicago, Chicago, Ill.*

356. Response in motility of non-innervated smooth muscle to *d*-tubocurarine chloride (curare). JOHN FERGUSON. *Dept. of Physiology and Pharmacology, Creighton Univ. School of Medicine, Omaha, Nebr.*

357. Functional changes in the feline bladder after interruption of the parasympathetic innervation. FRANK G. CARPENTER (introduced by MAGNUS I. GREGERSEN). *Dept. of Physiology, College of Physicians and Surgeons, Columbia Univ., New York City.*

358. Electro-potential changes during spontaneous activity of the human urinary bladder. E. L. COREY, W. H. BOYCE* AND S. A. VEST.* *Univ. of Virginia Med. School, Charlottesville.*

359. Influence of low oxygen tension and lowered glucose levels on uterine activity. JAMES G HILTON* AND ROBERT A. WOODBURY. *Div. of Pharmacology, Univ. of Tennessee Med. Units, Memphis.* (Pharmacol.)

Physiology Society Business Meeting

WEDNESDAY, 4:00 P.M.—LITTLE THEATRE

Thursday Morning, May 3, 9:00 a.m.

Endocrines: Pituitary, etc.

THURSDAY, 9:00 A.M.—ARENA STAGE

Chairman: S. M. WALKER

360. Influence of hypophysectomy, thyroidectomy and low dietary protein on plasma and liver proteins in thiouracil-fed rats. JAMES H. LEATHEM. *Bureau of Biological Research, Rutgers Univ., New Brunswick, N. J.*

361. Effect of hypophysectomy on electrolyte and water balance in dog. I. L. SCHWARTZ,* D. P. EARLE, JR., R. C. DE BODO, S. J. FARBER,* M. KURTZ,* AND J. GREENBERG.* *Depts. of Pharmacology, Medicine and Physiology, New York Univ. College of Medicine, New York City.*

362. Adrenal glands of dogs following hypophysectomy. N. LANE (introduced by L. W. EICHNA). *Dept. of Pathology, Univ. Hosp., and Dept. of Pharmacology, New York Univ. College of Medicine, New York City.*

363. Growth hormone and water metabolism in the hypophysectomized dog. R. C. DE BODO, I. L. SCHWARTZ,* J. GREENBERG,* M. KURTZ,* D. P. EARLE, JR., AND S. J. FARBER.* *Depts. of Pharmacology, Physiology and Medicine, New York Univ. College of Medicine, New York City.*

364. ACTH release in response to stress is partially prevented by an adrenergic blocking agent (SKF-501). CHARLES H. SAWYER AND GEORGE R. PARKERSON, JR.* *Dept. of Anatomy, Duke Univ. School of Medicine, Durham, N. C.*

365. Estimated duration of spontaneous neurogenic stimulation of the hypophysis, causing LH release in female rats. JOHN W. EVERETT (introduced by F. D. MCCREA). *Dept. of Anatomy, Duke Univ. School of Medicine, Durham, N. C.*

366. Effects of ascorbic acid on thyrotrophin (TSH)-treated guinea pigs. ELIZABETH A. HERROLD,* ROY K. RINEHART,* HAROLD E. COOMBS* AND JAMES H. LEATHEM. *Research Dept., Ciba Pharmaceutical Products, Inc., Summit, N. J.*

367. Disappearance rate of exogenous thyrotrophin from the blood of normal and hypophysectomized rats. SAVINO A. D'ANGELO. *Dept. of Anatomy, Jefferson Med. College, Philadelphia, Pa.*

368. Direct inactivation of gonadotrophin, thyrotrophin and prolactin by extracts of Lithospermum ruderale. R. L. NOBLE, E. R. PLUNKETT,* AND R. C. GRAHAM.* *Dept. of Med. Research, Univ. of Western Ontario, London, Ontario, Canada.*

369. Effect of hormonal factors on growth of transplanted rat tumor. CASIMIR FUNK, PHILIP TOMASHEFSKY,* ROBERT SOUKUP* AND ARTHUR EHRLICH.* *Funk Fndn. for Med. Research, New York City.* (Biochem.)

Muscle, Chemical

THURSDAY, 9:00 A.M.—LITTLE THEATRE

Chairman: S. W. Kuffler

370. Application of isotopes to the study of the extra or intracellular positions of sodium and potassium in tissues of young and adult chicks. J. S. BARLOW* AND J. F. MANERY. *Dept. of Biochemistry, Univ. of Toronto, Toronto, Ontario, Canada.*

371. Calcium binding in muscle. VIRGINIA WEIMAR (introduced by L. V. HEILBRUNN). *Dept. of Zoology, Univ. of Pennsylvania, Philadelphia.*

372. Oxygen consumption of normal and denervated muscle in the presence and absence of glucose. KWANG SOO LEE,* CHARLES M. GRUBER, JR., CHARLES M. GRUBER AND ZINAIDA T. LASZICZENKO.* *Dept. of Pharmacology, Jefferson Med. College, Philadelphia* (Pharmacol.)

373. Utilization of oxalacetate and succinate in denervated muscle, unexercised and exercised by electrical stimulation. ROBERT M. HILL, DORSEY E. HOLTKAMP* AND ENID K. RUTLEDGE.* *Depts. of Biochemistry and Pathology, Univ. of Colorado School of Medicine, Denver.* (Biochem.)

374. Histochemical detection of fatal anticholinesterase poisoning. A. D. BERGNER* AND S. H. DURLACHER *Med. Div., Army Chemical Center, Md., and Office of Chief Med. Examiner of Maryland, Baltimore.*

375. Effects of anions on mechanical responses of skeletal muscle. ARTHUR J. KAHN* AND ALEXANDER SANDOW. *Washington Square College of Arts and Sciences, New York Univ., New York City.*

376. Various forms of actomyosin superprecipitation. SAMUEL S. SPICER. *Natl. Insts. of Health, Bethesda, Md.*

377. Polymerization of actin. K. LAKI (introduced by L. MARSHALL). *Natl. Insts. of Health, Bethesda, Md.*

378. Contractile properties of compressed mono-

layers of actomyosin. TERU HAYASHI (introduced by RITA M. GUTTMAN). *Dept. of Zoology, Columbia Univ., New York City.*

379. Regulation of rate of shortening of myosin B threads by magnesium and calcium. WILLIAM J. BOWEN. *Natl. Insts. of Health, Bethesda, Md.*

380. Experiments on microinjection of adenosine triphosphate into skeletal muscle fibers. FLOYD J. WIERCINSKI AND B. A. COOKSON.* *Dept. of Physiology, Hahnemann Med. College, Philadelphia, Pa.*

Circulation: Epinephrine, Nor-epinephrine, Drugs, etc.

THURSDAY, 9:00 A.M.—MUSIC HALL

Chairman: J. W. Remington

381. Interaction on blood pressure of ergonovine and epinephrine. J. H. WILLS. *Med. Div., Army Chemical Center, Md.*

382. Comparison of circulatory effects of l-epinephrine and l-nor-epinephrine. KHALIL G. WAKIM AND HIRAM E. ESSEX. *Div. of Experimental Medicine, Mayo Fndn., Rochester, Minn.*

383. Further observations on certain responses to massive doses of epinephrine. HIRAM E. ESSEX. *Mayo Fndn., Rochester, Minn.*

384. Changes in peripheral circulation induced by vasoactive drugs acting upon cerebral chemoreceptors. ROBERT D. TAYLOR AND IRVINE H. PAGE. *Cleveland Clinic Fndn., Cleveland, Ohio.*

385. Some pharmacological effects of N 3-4-5 trimethoxyphenylethyl mescaline. MAURICE C. OLIVIER (introduced by C. H. THIENES). *Dept. of Pharmacology, Univ. of Southern California Med. School, Los Angeles.*

386. Inconsistency of vascular responses to low concentrations of epinephrine topically applied to the rat mesentery. MARY P. WIEDEMAN* AND PAUL A. NICOLL. *Dept. of Physiology, Indiana Univ., Bloomington.*

387. Differential circulatory effects of carbon dioxide. JOHN L. PATTERSON, JR., EDWARD J. WAITS AND MARY V. MCPHAUL (introduced by JOHN HALDI). *Emory Univ. School of Medicine, Atlanta, Ga.*

388. Changes in blood pressure in response to presumably and to potentially painful stimuli. F. R. GOETZL AND C. BIEN.* *Inst. of Med. Research, Permanente Fndn., Oakland, Calif.*

389. Effects of corticoids and ACTH on fluid exchange, blood pressure, glycemia; cholesterolemia and atherogenesis in chicks. J. STAMLER,* R. PICK* AND L. N. KATZ. *Med. Research Inst., Michael Reese Hospital, Chicago, Ill.*

390. Effect of renin tachyphylaxis on survival time after severe hemorrhage. G. CARL RAU (introduced by B. A. WESTFALL). *Dept. of Physiology and Pharmacology, Univ. of Missouri Med. School, Columbia.*

Blood: Leucocytosis, Erythropoiesis, Anemia

THURSDAY, 9:00 A.M.—MUSIC HALL FOYER

Chairman: L. B. Jaques

391. Production of periods of leukocytosis and tolerance by consecutive oral administrations of different bacterial pyrogens. CARMINE D. CLEMENTE* (introduced by RUTH RHINES). *Dept. of Anatomy, School of Medicine, Univ. of Pennsylvania, Philadelphia.*

392. Influence of respiratory movements upon peripheral leukocyte level: control of the peripheral leukocyte level by the lungs. HOWARD R. BIERMAN, KEITH H. KELLY,* FAUNO CORDES,* NICHOLAS L. PETRAKIS,* MARILEE FOSTER* AND BETTY LOSE.* *Natl. Insts. of Health, Bethesda, Md., and Univ. of California School of Medicine, San Francisco.* (Pharmacol.)

393. Comparison of erythropoietic response in normal and adrenalectomized rats following hemorrhage. ROBERT NELSON (introduced by THOMAS H. ALLEN). *Dept. of Physiology, College of Physicians and Surgeons, Columbia Univ., New York City.*

394. Effect of total sympathectomy on hemoglobin production of dogs. PETER D. ORAHOVATS* AND WALTER S. ROOT. *Dept. of Physiology, College of Physicians and Surgeons, Columbia Univ., New York City.*

395. Erythropoietic activity of bone marrow demonstrated in vivo using colchicine. WILSON C. GRANT. *Dept. of Physiology, College of Physicians and Surgeons, Columbia Univ., New York City.*

396. Production of red cells in acclimatization to altitude-comparative study of in vitro systems in biosynthesis of hemoglobin. DAVID L. DRABKIN AND ASHTON GRAYBIEL. *Dept. of Physiological Chemistry, Grad. School of Medicine, Univ. of Pennsylvania, Philadelphia, and U. S. Naval School of Aviation Medicine, Pensacola, Fla.* (Biochem.)

397. Qualitative differences between erythrocytes from normal and tuberculous individuals. CURTIS SANDAGE AND YAYE FURUTANI (introduced by C. C. WANG). *Research Div., Hines Veterans Hospital, and Dept. of Exptl. Medicine, Northwestern Univ. Med. School, Chicago, Ill.*

398. Production of anemia in dogs with methylene blue. R. A. MITCHELL* AND H. C. STRUCK. *Dept. of Physiology and Pharmacology,*

Creighton Univ. School of Medicine, Omaha, Nebr.

399. Hemolytic anemia produced by onions. M. KALSER,* H. K. IVY,* D. F. MAGEE* AND A. C. IVY. *Dept. of Clin. Science, Univ. of Illinois College of Medicine, Chicago.*

400. Evidence for presumptive relationship of Castle's anti-anemic intrinsic factor to glandular mucoprotein of human gastric juice. GEORGE B. JERZY GLASS, LINN J. BOYD, MICHAEL A. RUBINSTEIN, CHESTER S. SVIGALS AND JACQUELINE E. CHEVALLEY (introduced by STEWART WOLF). *Dept. of Medicine, New York Med. College, Flower and Fifth Ave. Hosp., and Metropolitan Hosp. Research Unit, New York City.*

401. Synergism of several anti-neoplastic agents. ABRAHAM GOLDIN,* EZRA M. GREENSPAN* AND EMANUEL B. SCHOENBACH. *Natl. Cancer Inst., U. S. Marine Hospital, and Dept. of Preventive Medicine, Johns Hopkins Univ. School of Medicine, Baltimore, Md.* (Immunol.)

Thursday Afternoon, May 3, 1:15 p.m.

Endocrines: ACTH, Cortisone, DCA, etc.

THURSDAY, 1:15 P.M.—ARENA STAGE

Chairman: George Sayers

402. Influence of ACTH on sodium and potassium content of human mixed saliva. B. GRAD (introduced by O. F. DENSTEDT). *Allan Memorial Inst., McGill Univ., Montreal, Quebec, Canada.*

403. Effect of cortisone and DCA on Na^{24} transport in adrenalectomized dogs. R. R. OVERMAN, A. K. DAVIS* AND ANNE C. BASS.* *Div. of Physiology, Univ. of Tennessee College of Medicine, Memphis.*

404. Extrarenal actions of desoxycorticosterone (DCA) and adrenocorticotrophic hormone (ACTH) on tissue electrolytes. DIXON M. WOODBURY (introduced by GEORGE SAYERS). *Dept. of Pharmacology, Univ. of Utah College of Medicine, Salt Lake City.*

405. Effect of cortisone and ACTH on threshold of convulsions induced by pentamethylene tetrazol. CLARA TORDA AND HAROLD G. WOLFF. *Depts. of Medicine and Psychiatry, New York Hosp., Cornell Med. College, New York City.*

406. Abolition of induced positive synovial potentials in the dog by cortisone. C. I. REED AND NORMAN R. JOSEPH.* *Univ. of Illinois College of Medicine, Chicago.*

407. Accelerating effect of pyromen in contrast to inhibitory effect of cortisone on the Arthus phenomenon in rabbits. EDWARD G. STUART (introduced by WILLIAM F. WINDLE). *Dept. of Anatomy, School of Medicine, Univ. of Pennsylvania, Philadelphia.*

408. Studies with cortisone on the mechanism of increased capillary permeability in inflammation. VALY MENKIN. *Agnes Barr Chase Fndn. for Cancer Research, Temple Univ. School of Medicine, Philadelphia, Pa.*

409. In vitro inactivation of cortisone by tissues of normal and stressed adrenalectomized rats. KARL E. PASCHKIS, A. CANTAROW AND D. BOYLE.* *Jefferson Med. College, Philadelphia, Pa.*

410. Growth inhibition by cortisone and related steroids. DAVID A. KARNOFSKY, LOIS P. RIDGWAY AND C. CHESTER STOCK (introduced by K. DOBRINER). *Sloan-Kettering Inst. for Cancer Research, New York City.* (Biochem.)

411. Relationship of pituitary and adrenal cortex to ovarian hyperemia reaction in immature rat. R. W. PAYNE (introduced by R. O. GREEP). *Ziskind Research Labs., New England Center Hosp., and Dept. of Medicine, Tufts College Med. School, Boston, Mass.*

412. In vitro demonstration of an antihistaminic action of cortisone. DURWOOD J. SMITH (introduced by WILLIAM S. MCCANN). *Dept. of Medicine, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.* (Biochem.)

Neurophysiology: Chemical

THURSDAY, 1:15 P.M.—LITTLE THEATRE

Chairman: A. E. Walker

413. Effect on the electrocorticogram of local topical application of acetylcholine chloride to the human cerebral cortex. J. G. CHUSID* AND C. G. DE GUTIÉRREZ-MAHONEY. *Neurological Div., St. Vincent's Hosp., New York City.*

414. Action of acetylcholine on cerebral cortex of cats and monkeys. CARL F. ESSIG (introduced by WADE H. MARSHALL). *Natl. Insts. of Health, Bethesda, Md.*

415. Mechanism of seizures induced by di-isopropyl fluorophosphate (DFP). WILLIAM F. BOUZARTH* AND HAROLD E. HIMWICH. *Med. Div., Army Chemical Center, Md.*

416. Cerebellar component of convulsive manifestations. W. H. COOK* AND G. W. STAVRAKY. *Dept. of Physiology, Faculty of Medicine, Univ. of Western Ontario, London, Ontario, Canada.*

417. Modification of cerebellar activity by various

drugs. JACK STEELE* AND RAY S. SNIDER. *Dept. of Anatomy, Northwestern Univ. Med. School, Chicago, Ill.*

418. Acute hemorrhagic pulmonary edema from hypothalamic lesions in rats. HARRY D. PATTON AND J. E. GAMBLE.* *Dept. of Physiology and Biophysics, Univ. of Washington School of Medicine, Seattle.*

419. Metabolic changes in dogs following transections of the central nervous system at various levels. EVELYN ANDERSON, DAVID MCK. RIOCH, KATHRYN KNOWLTON* AND WEBB HAYMAKER.* *Natl. Insts. of Health, Bethesda, Md., Chestnut Lodge Sanitarium, Rockville, Md., and Armed Forces Inst. of Pathology, Washington, D. C.*

420. Metabolic and pharmacologic studies in glia and nerve cells and components. L. ABOOD,* M. CAVANAUGH,* R. D. TSCHIRGI* AND R. W. GERARD. *Dept. of Physiology, Univ. of Chicago, Chicago, Ill.*

421. Cerebral blood flow and oxygen consumption during natural sleep. R. MANGOLD,* L. SOKOLOFF,* P. O. THERMAN, E. H. CONNER,* J. I. KLEINERMAN* AND S. S. KETY. *Dept. of Physiology and Pharmacology, Grad. School of Medicine, Univ. of Pennsylvania, Philadelphia.*

422. Use of frequency selection in the automatic electro-encephalographic control of anesthesia (servo-anesthesia). REGINALD G. BICKFORD. *Lab. of Electro-Encephalography, Mayo Fndn., Rochester, Minn.*

423. Utilization of glucose *in vitro* by human brain slices. V. C. SUTHERLAND AND T. N. BURBRIDGE (introduced by H. W. ELLIOTT). *Div. of Pharmacology and Exptl. Therapeutics, Univ. of Calif. School of Medicine, San Francisco.* (Pharmacol.)

Heart: Rate, Excitability, Reflexes, Metabolism

THURSDAY, 1:15 P.M.—MUSIC HALL

Chairman: T. G. Bernthal

424. Differential vagal responses as demonstrated by the ECG. B. CALESNICK AND N. H. SMITH (introduced by M. E. MAXFIELD). *Dept. of Pharmacology, Hahnemann Med. College, Philadelphia, Pa.*

425. Ventricular rate as a function of auricular rate: effect of vagal and sympathetic impulses. G. H. ACHESON AND HOWARD LEVITIN.* *Pharmacology Dept., Univ. of Cincinnati College of Medicine, Cincinnati, Ohio.*

426. 'Vulnerable' period and the cardiac excitability curve. BRIAN F. HOFFMAN,* EDWARD F. GORIN,* FLORENCE S. WAX,* EUSTACE E. SUCKLING,* ARTHUR A. SIEBENS* AND CHANDLER MCC. BROOKS. *State Univ. Med. Center, New York City.*

427. Excitability cycle of the intact dog heart. R. S. SIKAND,* H. M. GELLER,* H. LEVINE,* AND L. H. NAHUM. *Lab. of Physiology, Yale Univ. School of Medicine, New Haven, Conn.*

428. Cardio-vascular adjustments to pressure changes in left ventricle and peripheral arteries. D. M. AVIADO, JR., T. H. LI, B. CALESNICK, AND R. BELL, JR. (introduced by S. GOLDSCHMIDT). *Lab. of Pharmacology, Univ. of Pennsylvania, Philadelphia.*

429. Hemodynamic responses during electronarcosis. W. F. HAMILTON, C. H. THIGPEN,* H. M. CADDELL,* AND R. G. ELLISON.* *Depts. of Physiology and Psychiatry, Med. College of Georgia, Augusta.*

430. Cardiac arrest in dogs following a rapid fall in alveolar carbon dioxide tension. E. B. BROWN, JR. AND FLETCHER A. MILLER.* *Depts. of Physiology and Surgery, Univ. of Minnesota, Minneapolis.*

431. Effect of anesthetics on the isolated cat auricle. LOUIS J. ACIERNO* AND JOSEPH R. DIPALMA. *Depts. of Medicine and Physiology, State Univ. Med. Center, Brooklyn, N. Y.*

432. Effects of nitroglycerine on myocardial oxygen consumption in the dog. R. W. ECKSTEIN, WM. NEWBERRY,* AND J. MCEACHEN.* *Dept. of Medicine, Western Reserve Univ., Cleveland, Ohio.*

433. Effect of anoxia on metabolism of myocardial tissue. JANET M. LEMLEY AND CHARLES R. MENEELY (introduced by CHARLES S. ROBINSON). *Thayer Veterans Admin. Hosp. and Depts. of Biochemistry and Medicine, Vanderbilt Univ., Nashville, Tenn.* (Biochem.)

Body Fluids, Salts, Kidney

THURSDAY, 1:15 P.M.—MUSIC HALL FOYER

Chairman: Sid Robinson

434. Effect of large quantities of parenteral sodium chloride and fluid on plasma potassium and intracellular potassium balance. ABRAHAM DURY. *Dorn Lab. of Med. Research, Bradford Hosp., Bradford, Pa.*

435. Spontaneous hydrothorax in mice related to strain and diet. JOSEPH T. KING, Y. CHIUNG PUH LEE,* CLAIRE C. CARR* AND MAURICE B. VISSCHER. *Univ. of Minnesota, Minneapolis.*

436. Pitressin and mercuhydrin in relation to electrolyte excretion of patients with diabetes insipidus. ROBERT TARAIL AND FRANK M. MATEER (introduced by PAUL L. MCLAIN). *Dept. of Research Medicine, Univ. of Pittsburgh School of Medicine, Pittsburgh, Pa.*

437. Influence of cortisone and ACTH on water and electrolyte distribution and renal func-

tion. MARVIN F. LEVITT AND MORTIMER E. BADER (introduced by HOMER W. SMITH). *Depts. of Medicine and Pediatrics, Mt. Sinai Hosp., New York City.*

438. Water and electrolyte disturbances in acute renal insufficiency. JONAS H. SIROTA AND IRVING KROOP (introduced by MILTON MENDLOWITZ). *Dept. of Medicine, Mount Sinai Hosp., New York City.*

439. Some properties of cation exchange resins, with reference to their clinical applications. EVAN W. MCCHESNEY. *Sterling-Winthrop Research Inst., Rensselaer, N.Y.*

440. Cation exchange resin therapy in edema: its limitations in advanced renal disease. WILLIAM S. BECK AND HOWARD G. GOODMAN (introduced by W. A. SELLE). *Wadsworth Hosp., Veterans Admin. Center, Los Angeles, Calif.*

441. Urine volume, a measure of renal function. ALEXANDER J. MICHIE AND CATHARINE R. MICHIE (introduced by J. E. RHOADS). *Dept. of Physiology, New York Univ., College of Medicine, and Harrison Dept. of Surgical Research, Univ. of Pennsylvania School of Medicine, Philadelphia.*

442. Diurnal variations of renal function in cirrhosis. RICHARD A. JONES,* GERALD O. MCDONALD,* E. E. BOND* AND JULES H. LAST. *Dept. of Exptl. Medicine, Northwestern Univ. Med. School, and Veterans Admin. Hosp., Hines, Ill.* (Pharmacol.)

443. Renal function during and after diabetic coma. LIONEL M. BERNSTEIN AND EDMUND F. FOLEY (introduced by WILLIAM S. HOFFMAN). *Hektoen Inst. for Med. Research, Cook County Hosp., Chicago, Ill.* (Biochem.)

444. Complement titres in different phases of nephritis. KURT LANGE, FRANK GRAIG, JACOB OBERMAN AND FRED LOCASTO (introduced by M. G. MULINOS). *Dept. of Medicine, New York Med. College, New York City.* (Pharmacol.)

Aviation and Applied Physiology: Exposure to Cold

THURSDAY, 1:15 P.M —SOUTH HALL, ROOM C

Chairman: A. P. Gagge

445. Oxygen consumption of airline pilots during regular scheduled flights. FRED A. HITCHCOCK. *Med. Research Lab., Civil Aeronautics, Admin. Aeronautical Center, Oklahoma City, Okla.*

446. Relationship between fitness for strenuous work and ability to withstand high headward acceleration. JANET WESSEL* AND LAURENCE E. MOREHOUSE. *Univ. of Southern California, Los Angeles, and Air Force School of Aviation Medicine, Randolph Field, Tex.*

447. Effects of water or milk on colon activity and flatus composition in man at altitudes. F. R. STEGGERDA, W. C. CLARK* AND I. E. DANHOF.* *Dept. of Physiology, Univ. of Illinois, Urbana.*

448. Blood pressure changes following explosive decompression of monkeys to extreme altitudes. SAMUEL GELFAN AND ATTIE YVONNE WERNER.* *Aeromed. Research Unit, Lab. of Physiology, Yale Univ. School of Medicine, New Haven, Conn.*

449. Strength and other physical properties of the long bones of the inferior extremity. F. GAYNOR EVANS AND MILTON LEBOW (introduced by M. MASON GUEST). *Depts. of Anatomy and Engineering Mechanics, Wayne Univ., Detroit, Mich.*

450. Acclimatization to cold in man. FARRINGTON DANIELS, JR., DAVID C. FAINER, C. LAWRENCE BOMMARITO AND DAVID E. BASS (introduced by H. S. BELDING). *Army Med. Dept. Research and Graduate School, Washington, D. C., and QM Climatic Research Lab., Lawrence, Mass.*

451. Adrenal cortical activity and hematological changes in man during cold acclimatization. DAVID E. BASS, DAVID C. FAINER, RICHARD K. BLAISDELL AND FARRINGTON DANIELS, JR. (introduced by A. H. HEGNAUER). *QM Climatic Research Lab., Lawrence, Mass., and Army Med. Dept. Research and Graduate School, Washington, D.C.*

452. Effect of cold on joints. J. HUNTER AND M. G. WHILLANS.* *Defence Research Med. Labs., Toronto, Ontario, Canada.*

453. Acquired resistance to cold exposure in the rabbit and the rat. J. R. BLAIR, J. M. DIMITROFF, AND J. E. HINGELEY (introduced by A. D. KELLER). *Army Med. Service Field Research Lab., Fort Knox, Ky.*

454. Effects of atropine in men walking in moderate heat. F. N. CRAIG. *Med. Div., Army Chemical Center, Md.*

455. Gross composition of the fat-free mammalian body. GROVER C. PITTS (introduced by S. W. BRITTON). *Physiological Lab., Univ. of Virginia, Charlottesville.*

456. Tobacco smoking and physical performance. PETER V. KARPOVICH AND CREIGHTON J. HALE.* *Dept. of Physiology, Springfield College, Springfield, Mass.*

PAPERS READ BY TITLE

457. Shock following experimental myocardial infarction in dogs. CLARENCE M. AGRESS,* MARVIN J. ROSENBURG,* MAXWELL J. BINDER,* A. SCHNEIDERMAN* AND W. G. CLARK. *Cardiovascular Lab., VA Center, Los Angeles, Calif.*

458. Further studies of thoracic cord lesions on conditioned reflexes in dogs. WILLIAM F. ALLEN. *Dept. of Anatomy, Univ. of Oregon Med. School, Portland.*

459. Acclimatization of mice to discontinuous exposure to 25,000 feet. PAUL D. ALTLAND AND BENJAMIN HIGHMAN. *Natl. Insts. of Health, Bethesda, Md.*

460. Reticular influences on sensory and thalamic synchronization in the olfactory bulb. A. ARDUINI AND G. MORUZZI (introduced by H. W. MAGOUN). *Dept. of Physiology, Univ. of Pisa, Italy.*

461. Influence of environmental temperature and thyroid status on the reproductive organs of young female mice. FOUAD ATALLA* AND E. P. REINEKE. *Dept. of Physiology and Pharmacology, Michigan State College, East Lansing.*

462. Effect of ascorbic acid pretreatment on leukocyte response and survival of adrenalectomized rats exposed to stress. H. BACCHUS, C. A. TOOMPAS AND M. H. HEIFFER (introduced by C. E. LEESE). *Dept. of Physiology, School of Medicine, George Washington Univ., Washington, D.C.*

463. Effect of cholesterol feeding on dogs with reduced liver function (Eck fistula). ROBERT O. BAILEY (introduced by W. B. BRADLEY). *Dept. of Exptl. Medicine, Northwestern Univ. Med. School, Evanston, Ill.*

464. Adrenal alteration induced by oxygen at high pressure. JOHN W. BEAN. *Dept. of Physiology, Univ. of Michigan, Ann Arbor.*

465. Influence of diabetes mellitus on the formed elements of the blood. GLORIA A. BERARDI* AND ALBERT S. GORDON. *Dept. of Biology, Washington Square College, New York Univ., New York City.*

466. Coronary artery ligations in anemic and normal dogs. J. R. R. BOBB, J. D. M. WARGO* AND H. N. WRIGHT. *Depts. of Physiology and Pharmacology, Med. School, Univ. of Minnesota, Minneapolis.*

467. Differentiation of black- and red-dispersing factors from the brain of the fiddler crab, Uca. FRANK A. BROWN, JR. AND MILTON FINGERMAN. *Dept. of Biological Sciences, Northwestern Univ., Evanston, Ill.*

468. Extreme hypercholesteremia following administration of cholic acid to the bile duct ligated rat. SANFORD O. BYERS AND MEYER FRIEDMAN. *Harold Brunn Inst. for Cardiovascular Research, Mount Zion Hosp., San Francisco, Calif.*

469. Inactivation of Cypridina luciferase by alcohols. AURIN M. CHASE. *Physiological Labs., Princeton Univ., Princeton, N. J.*

470. Effects of potassium cyanide on growth and respiration in Tetrahymena *geleii* Furgason. RICHARD E. DEAN (introduced by CHARLES G. WILBER). *Univ. of Nebraska, Lincoln.*

471. Effect of *p*-aminohippurate on renal tubular reabsorption of urea in normal man. RAYMOND J. DERN AND THEODORE N. PULLMAN (introduced by ALF S. ALVING). *Univ. of Chicago, Dept. of Medicine, Chicago, Ill.*

472. Measurement of the secretin content of the intestine in hypophysectomized and normal rats. J. E. C. DORCHESTER* AND R. E. HAIST. *Dept. of Physiology, Univ. of Toronto, Toronto, Canada.*

473. Topical antiphlogistic action of cortisone. THOMAS F. DOUGHERTY. *Dept. of Anatomy, Univ. of Utah, Salt Lake City.*

474. Incubation hemolysis of human erythrocytes. M. M. ELLIS AND M. D. ELLIS.* *Dept. of Physiology and Pharmacology, Univ. of Missouri Med. School, Columbia.*

475. Growth hormone induced diabetes in the rat. FRANK L. ENGEL, W. J. COGGINS,* W. LYNN* AND A. VIAU.* *Dept. of Medicine, Duke Univ., Durham, N. C.*

476. Elevation of serum mucoprotein by parathyroid extract. MILTON B. ENGEL (introduced by HUBERT R. CATCHPOLE). *Univ. of Illinois, College of Dentistry, Chicago.*

477. Suppression of ventricular ectopic rhythms by parasympathomimetic drugs. ANTONIO ESTANDIA,* A. SIDNEY HARRIS AND TEDROE J. FORD, JR.* *Dept. of Physiology, Baylor Univ. College of Medicine, Houston, Tex.*

478. Rate of disappearance of digitoxin from the blood of man after its parenteral administration. MEYER FRIEDMAN, SANFORD O. BYERS AND RENÉ BINE, JR.* *Harold Brunn Inst. for Cardiovascular Research, Mount Zion Hosp., San Francisco, Calif.*

479. 'Alveolar air' and arterial blood gas tension studies in normal and chronic lung disease patients. MORTON GALDSTON, BRY BENJAMIN* AND MARYLIN HUREWITZ.* *New York Univ. Research and Med. Services, Goldwater Memorial Hosp., and Dept. of Medicine, New York Univ. Med. School, New York City.*

480. Physiology of the arousal reaction. E. GELLHORN AND M. BERNHAUT.* *Lab. of Neurophysiology, Univ. of Minnesota, Minneapolis.*

481. Inhibition of spinal motoneurons during increase of pH and inflation of the carotid sinus. ROBERT GESELL, A. S. DONTAS* AND D. C. PETERS.* *Dept. of Physiology, Univ. of Michigan, East Lansing.*

482. Failure of vitamin B_{12} to reverse aminopterin inhibition in the fruit-fly, *Drosophila melanogaster*. E. D. GOLDSMITH AND MORRIS H. HARNLY.* *Dept. of Histology, College of Dentistry, and Washington Square College of Arts*

and Sciences, New York Univ., New York City.

483. Resumption of development in chick embryos after solidification in liquid nitrogen. FEDERICO GONZALES* AND BASILE LUYET. *Dept. of Biology, St. Louis Univ., St. Louis, Mo.*

484. Effect of x-radiation on the growth of *Torulopsis utilis*. BARBARA M. GRANT* AND F. G. SHERMAN. *Biology Dept., Brown Univ., Providence, R. I.*

485. Use of ether in the prevention of cyclopropane-epinephrine induced arrhythmias. E. M. GREISHEIMER, DOROTHY ELLIS,* M. J. OPPENHEIMER AND H. W. ROBINSON. *Dept. of Physiology, Temple Univ., School of Medicine, Philadelphia, Pa.*

486. Peripheral circulatory factors as the determinant of cardiac output. ARTHUR C. GUYTON AND JEFF W. HARRIS.* *Dept. of Physiology and Biophysics, Univ. of Mississippi School of Medicine, University.*

487. Head-turning and eye deviation evoked by cortical excitation in the freely moving cat. WALTER R. HESS,* DONALD A. MCDONALD* AND ROBERT B. LIVINGSTON. *Physiologischen Inst. der Univ., Zürich, Switzerland.*

488. The relation of ambient water temperature to survival to drowning and the influence of ethyl alcohol and epinephrine on survival. WM. A. HIESTAND, FRED W. STEMLER* AND JACOB E. WIEBERS.* *Lab. of Animal Physiology, Purdue Univ., Lafayette, Ind.*

489. Thirst with thyroid feeding. J. H. HOLMES AND M. BEHAN. *Dept. of Medicine, Univ. of Colorado School of Med., Denver.*

490. Lack of evidence of a Trueta shunt in dogs during electrical stimulation of the renal artery nerves. C. RILEY HOUCK. *Div. of Physiology, School of Biological Sciences, Univ. of Tennessee, Memphis.*

491. Mechanism of reversal of spinal and bulbar reflexes. R. A. HUGHES,* G. W. STAVRAKY AND R. D. TEASDALL.* *Dept. of Physiology, Faculty of Medicine, Univ. of Western Ontario, London, Canada.*

492. Estimation of adrenaline-noradrenaline solutions by quantitative paper chromatography. D. E. HUTCHEON (introduced by L. B. JAQUES). *Dept. of Physiology, Univ. of Saskatchewan, Saskatoon, Canada.*

493. Effect of caffeine upon motor activity of the human stomach. EDOUARD JACOBS* AND JAMES L. A. ROTH. *Dept. of Gastroenterology, Graduate School of Medicine, Univ. of Pennsylvania, Philadelphia.*

494. Sleep pattern of infants. NATHANIEL KLEITMAN AND THEODORE G. ENGELMANN.* *Dept. of Physiology, Univ. of Chicago, Chicago, Ill.*

495. Relationship of skeletal muscle tone to carotid blood pressure. CHESTER E. LEESE AND JAMES T. HICKS.* *Dept. of Physiology, School of Medicine, George Washington Univ., Washington, D. C.*

496. Electrolyte losses in edematous individuals following organic mercurials. GERSON T. LESSER, MARCELLE F. DUNNING, FREDERICK H. EPSTEIN AND EUGENE Y. BERGER (introduced by J. MURRAY STEELE). *New York Univ. Research Service, Goldwater Memorial Hosp., and Dept. of Medicine, New York Univ. Med. School, New York City.*

497. Effect of DDT on the cholinesterase activity of the blood plasma of White Leghorn Cockerels. V. F. LINDEMAN AND HAROLD BURLINGTON. *Dept. of Zoology, Syracuse Univ., Syracuse, N. Y.*

498. Effect of nitrogen mustard administration upon induced proteinuria in the rat. RICHARD W. LIPPMAN AND HELEN J. UREEN.* *Inst. for Med. Research, Cedars of Lebanon Hosp., Los Angeles, Calif.*

499. Influence of acute emotions on blood clotting. DAVID I. MACHT. *Dept. of Pharmacology, Sinai Hosp., Baltimore, Md.*

500. Counteraction of anabolic effects of mild hyperthyroidism by vitamin B_{12}. JOSEPH MEITES. *Dept. of Physiology and Pharmacology, Michigan State College, East Lansing.*

501. Effect of experimental renal hypertension on experimental cholesterol atherosclerosis. W. G. MOSS,* J. P. KIELY,* J. B. NEVILLE,* J. E. BOURQUE* AND G. E. WAKERLIN. *Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago.*

502. Interrelationship of the adrenal cortex and the posterior pituitary. C. SUSAN NAGAREDA (introduced by ROBERT GAUNT). *Dept. of Zoology, Syracuse Univ., Syracuse, N. Y.*

503. Effect of anoxia on the intestine of albino and hooded rats. DAVID W. NORTHUP, EDWARD J. VAN LIERE AND J. CLIFFORD STICKNEY. *Dept. of Physiology, West Virginia Univ. School of Medicine, Morgantown.*

504. Photoöxidation of crystalline estrogens in the presence of flavins. JOSEPH F. NYC,* HARRY B. FRIEDGOOD, JOSEPHINE B. GARST* AND DOROTHY M. MARON.* *Depts. of Medicine and Physiological Chemistry, Univ. of California, Los Angeles; California Inst. for Cancer Research, Los Angeles.*

505. Effect of cortisone and DCA on Na^{24} transport in normal dogs. R. R. OVERMAN, A. K. DAVIS* AND ANNE C. BASS.* *Div. of Physiology, Univ. of Tennessee College of Medicine, Memphis.*

506. Fluid balance studies in gut, muscle and skin of rats after total body x-radiation. E. E.

PAINTER AND M. A. COOLEY.* *Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago.*

507. Progesterone metabolism in cases of liver disease. K. E. PASCHKIS, A. CANTAROW, W. P. HAVENS, JR.* *Jefferson Med. College, Philadelphia, Pa.*

508. Reversible inactivation of crystalline urease, brain succinoxidase and rat brain respiration by 2,4-dinitrophenol. C. N. PEISS (introduced by F. E. FRANKE). *Dept. of Biology, Johns Hopkins Univ., Baltimore, Md.*

509. Effect of *g* upon absorption of P^{32} in the monkey. V. A. PERTZOFF (introduced by S. W. BRITTON). *Physiological Lab., Univ. of Virginia, Charlottesville.*

510. Conditioning of human heart rate to graded degrees of muscular tension. JOHN E. PETERS* AND W. HORSLEY GANTT. *Pavlovian Lab., Johns Hopkins Univ., Baltimore, Md.*

511. Curare-like compounds. I. A comparison of six compounds using the inclined screen technic. O. D. PRIDDLE, JR. AND Y. T. OESTER (introduced by A. G. MULDER). *Depts. of Pharmacology and Physiology, Stritch School of Medicine, Loyola Univ., Chicago, Ill.*

512. Excretion of chloride and water in normal man. THEODORE N. PULLMAN AND WILLIAM W. MCCLURE (introduced by ALF S. ALVING). *Univ. of Chicago, Dept. of Medicine, Chicago, Ill.*

513. An in vivo method for the determination of tonus changes of the pyloric sphincter. J. P. QUIGLEY, H. LOUCKES* AND D. A. BRODY.* *Dept. of Physiology, School of Biological Sciences, Univ. of Tennessee, Memphis.*

514. Eosinopenic response of mice to ACTH protein and peptide. W. O. REINHARDT, G. F. HUNGERFORD* AND CHOH HAO LI. *Depts. of Anatomy and Biochemistry, Univ. of California, Berkeley.*

515. Potential antigenicity of hyaluronidase preparations. LAWRENCE W. ROTH AND IDA MAE SHEPPERD.* *Dept. of Pharmacology, Abbott Labs., North Chicago, Ill.*

516. A comparison of specific gravities determined by weighing and copper sulfate methods. C. H. WILLIAM RUHE (introduced by T. K. KRUSE). *Dept. of Physiology and Pharmacology, School of Medicine, Univ. of Pittsburgh, Pittsburgh, Pa.*

517. A dual-channel, piezoelectric, cathode-ray oscillographic recorder of muscle responses. ALEXANDER SANDOW (with the technical assistance of ARTHUR J. KAHN). *Washington Square College of Arts and Sciences, New York Univ., New York City.*

518. Inhibition of ovulation in the rabbit by Banthine (B-diethylaminoethyl xanthene-9-carboxylate methobromide). CHARLES H. SAWYER, J. E. MARKEE AND JOHN W. EVERETT.* *Dept. of Anatomy, Duke Univ., Durham, N. C.*

519. Regional differences in CO_2 elimination through the skin. K. E. SCHAEFER (introduced by E. S. MENDELSON). *U. S. Naval Medical Research Laboratory, New London, Conn.*

520. Preparation and physical studies of crystalline bovine albumin-fluorescein conjugates. RICHARD W. SCHAYER* AND ALFRED A. SCHILLER. *Rheumatic Fever Research Inst., Northwestern Univ. Med. School and Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago.*

521. Titration of extracts and hormones of the adrenal cortex by the method of unstained cell counts and by a color test. ROBERT SCHREK (introduced by JULES H. LAST). *Research Service, VA Hosp., Hines, Ill.*

522. Depressor effects of certain sulfhydryl compounds. HENRY A. SCHROEDER AND EDNA M. MENHARD.* *Hypertension Div., Dept. of Internal Medicine, Washington Univ. School of Medicine, St. Louis, Mo.*

523. Thermal fragility of rat erythrocytes following whole-body x-irradiation. FALCONER SMITH AND MARIE M. GRENAN.* *Natl. Insts. of Health, Bethesda, Md.*

524. Effect of ACTH on the distribution of plasma proteins of patients with pulmonary tuberculosis. LEONARD C. SMITH (introduced by C. C. WANG). *Research Div. of Hines Hosp., Hines, Ill.*

525. The action of levo-isomethadone during labor. FRANKLIN F. SNYDER. *Dept. of Obstetrics and Anatomy, Harvard Univ., Boston, Mass.*

526. Effect of certain anticonvulsants on Q_{O_2} of dog cerebral cortex. D. L. STUMPFF AND R. W. BELKNAP (introduced by H. C. STRUCK). *Dept. of Physiology and Pharmacology, Creighton Med. School, Omaha, Nebr.*

527. Plasma free and total urinary amino acids of hepatectomized dogs. MURIEL SVEC* AND SMITH FREEMAN. *Dept. of Exptl. Medicine, Northwestern Univ. Med. School, Evanston, Ill.*

528. Histochemical alterations in denervated skeletal muscle of mice. RICHARD H. SWIGART* AND W. LANE WILLIAMS. *Dept. of Anatomy, Univ. of Minnesota, Minneapolis.*

529. Effect of delayed additions of various substrates on the respiration of excised brain tissue. DAVID B. TYLER AND MATILDA TYLER.* *Depts. of Physiology and Pharmacology, School of Medicine, Univ. of Puerto Rico, San Juan.*

530. Effect of thyroid hormone on respiration of

cardiac tissue in the albino rat. WILLIAM C. ULLRICK* AND WILLIAM V. WHITEHORN. *Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago.*

531. In vitro uptake of radiomethionine in normal tissue and carcinoma. LESTER VAN MIDDLESWORTH. *Div. of Physiology, Univ. of Tennessee School of Biological Sciences, Memphis.*

532. Pressures recorded within the bone marrow cavities in dogs. GORDON F. VAWTER,* IRVING M. RASGON* AND JOHN P. MARBARGER. *Aeromed. and Physical Environment Lab., Univ. of Illinois, Chicago.*

533. Shortening of frog muscle fibers by serum of DASF guinea pigs. VIRGINIA WEIMAR* AND ROSALIND WULZEN. *Oregon State College, Corvallis.*

534. Relationship of calcium and magnesium to effects of phenobarbital on Q_{O_2} of brain slices. B. A. WESTFALL. *Dept. of Physiology and Pharmacology, Univ. of Missouri Med. School, Columbia, Mo.*

535. Optimal time for change of bath fluid in artificial kidney. A. V. WOLF, JOHN E. KILEY* AND GORDON D. CURRIE.* *Dept. of Physiology and Pharmacology and Dept. of Medicine, Albany Med. College, Albany, N.Y.*

536. Spontaneous electrical activity in the developing frog embryo. V. J. WULFF, S. M. DANCOFF,* HENRY QUASTLER* AND S. MERYL ROSE.* *Univ. of Illinois, Chicago.*

537. Lower incisor length in DASF guinea pigs. ROSALIND WULZEN, HUGO KRUEGER AND ALICE PLYMPTON.* *Oregon State College, Corvallis.*

538. Action of choline on the in-vivo and in-vitro synthesis of phospholipides. D. B. ZILVERSMIT AND N. R. DILUZIO.* *Div. of Physiology, Univ. of Tennessee School of Biological Sciences, Memphis.*

AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS

Forty-second Annual Meeting

CLEVELAND, OHIO, APRIL 29–MAY 3, 1951

(An asterisk following an author's name indicates "by invitation")*

Monday Morning, April 30, 9:00 a.m.

Enzymes—General

MONDAY, 9:00 A.M.—EXHIBIT HALL ROOM E

Chairman: James B. Summer

539. Stability toward heat of enzymes obtained from a thermophilic bacterium. WALTER MILITZER AND L. CONSTANCE TUTTLE (introduced by S. B. BINKLEY). *Dept. of Chemistry, Univ. of Nebraska, Lincoln.*

540. Heat inactivation of salivary amylase. JYTTE MUUS. *Dept. of Physiology, Mount Holyoke College, South Hadley, Mass.*

541. Probable maximum specific activity of macerans amylase. SIGMUND SCHWIMMER AND A. K. BALLS. *Corn Industries Research Fndn. Project, Enzyme Research Div., Bureau of Agricultural and Industrial Chemistry, U. S. Dept. of Agriculture, Albany, Calif.*

542. Heat of enzymatic inversion of sucrose. CARL R. BAUER AND MYRON J. LOVER (introduced by C. L. GEMMILL). *Dept. Pharmacology, Univ. of Virginia Med. School, Charlottesville.* (Pharmacol.)

543. Purification and properties of adenosine triphosphate-light emitting system. WILLIAM D. MCELROY AND JANE COULOMBRE (introduced by E. V. MCCOLLUM). *Dept. of Biology, Johns Hopkins Univ., Baltimore, Md.*

544. Mechanism of rhodopsin synthesis. RUTH HUBBARD (introduced by GEORGE WALD). *Biological Labs., Harvard Univ., Cambridge, Mass.*

545. Role of sulfhydryl groups in bleaching and synthesis of rhodopsin. GEORGE WALD AND PAUL K. BROWN.* *Biological Labs., Harvard Univ., Cambridge, Mass.*

546. Change in sulfhydryl groups during urease action. H. E. EVERT (introduced by CHALMERS L. GEMMILL). *Dept. of Pharmacology, Univ. of Virginia Med. School, Charlottesville.* (Pharmacol.)

547. Kinetics of transaminase reaction. ALFRED NISONOFF AND FREDERICK W. BARNES, JR. (introduced by W. M. CLARK). *Depts. of Medicine and Physiological Chemistry, Johns Hopkins School of Medicine, Baltimore, Md.*

548. Intracellular distribution of arginase activity. ARNOLD H. SCHEIN AND EMILY M. YOUNG (introduced by HAROLD B. PIERCE). *Dept. of Biochemistry, College of Medicine, Univ. of Vermont and State Agricultural College, Burlington.*

549. Demonstration of presence of Krebs cycle enzymes in Drosophila melanogaster. M. A. SPIRTES (introduced by SIDNEY WEINHOUSE). *Dept. of Genetics and Cytochemistry, Inst. for Cancer Research and Lankenau Hosp. Research Inst., Philadelphia, Pa.*

Carbohydrates—Chemistry and Metabolism

MONDAY, 9:00 A.M.—EXHIBIT HALL ROOM F

Chairman: Gerty T. Cori

550. Alkali-catalyzed transformation of glucose into fructose and mannose. YALE J. TOPPER (introduced by DEWITT STETTEN, JR.). *Div. of Nutrition and Physiology, Public Health Research Inst. of the City of New York.*

551. Hydrolysis of dextran. HOMER E. STAVELY AND E. E. TOOPS, JR. (introduced by A. WILHELMI). *Pharmaceutical Research Div., Commercial Solvents Corp., Terre Haute, Ind.*

552. Types of liver glycogen. MARTIN MORRISON,* ADRIAN C. KUYPER AND JAMES ORTEN. *Dept. of Physiological Chemistry, Wayne Univ. College of Medicine, Detroit, Mich.*

553. Enzymatic analysis of structure of branched polysaccharides. JOSEPH LARNER,* BARBARA ILLINGWORTH* AND GERTY T. CORI. *Dept. of Biochemistry, Washington Univ. Med. School, St. Louis, Mo.*

554. Effect of insulin on oxygen uptake of rat adipose tissue in vitro. NIELS HAUGAARD,* JULIAN B. MARSH* AND WILLIAM C. STADIE. *Dept. of Research Medicine, Univ. of Pennsylvania, Philadelphia.*

555. Glucose production and oxidation in normal and diabetic rats. DEWITT STETTEN, JR.,

ISSAC D. WELT* AND DWIGHT J. INGLE.* *Div. of Nutrition and Physiology, Public Health Research Inst. of the City of New York.*

556. Comparative metabolism of D-glucose-1-C^{14} and D-glucosone-1-C^{14}. CHARLES E. BECKER* AND HARRY G. DAY. *Dept. of Chemistry, Indiana Univ., Bloomington.*

557. Metabolism of C^{14}-glucose and pyruvate-2-C^{14} by mammalian muscle in vitro. CLAUDE A. VILLEE AND VIVIEN K. WHITE.* *Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

558. Disappearance from mouse tissues of carbon from assimilated sucrose. ROBERT STEELE (introduced by J. R. KLEIN). *Biology Dept., Brookhaven Natl. Lab., Upton, L. I., N. Y.*

559. Products of galactose metabolism by Brucella species. K. HIGUCHI,* T. H. SANDERS* AND C. R. BREWER. *Camp Detrick, Frederick, Md.*

Proteins—Physicochemical

MONDAY, 9:00 A.M.—EXHIBIT HALL ROOM B

Chairman: John T. Edsall

560. Observations on solvation and reconstitution of collagen. PARKER VANAMEE AND KEITH R. PORTER (introduced by S. GRANICK). *Rockefeller Inst. for Med. Research, New York City.*

561. Light-scattering studies on insulin. FRANK TIETZE* AND HANS NEURATH. *Dept. of Biochemistry, Univ. of Washington School of Medicine, Seattle.*

562. Effect of calcium on rigidity and stress relaxation of fibrin clots. JOHN D. FERRY, MEREDITH MILLER* AND SIDNEY SHULMAN.* *Dept. of Chemistry, Univ. of Wisconsin, Madison.*

563. Isoelectric points of amino acids and proteins by ionography. H. J. MCDONALD, M. C. URBIN, E. P. MARBACH AND M. B. WILLIAMSON (introduced by D. A. MACFADYEN). *Biochemistry Dept., Graduate School and Stritch School of Medicine, Loyola Univ., Chicago, Ill.*

564. Estimation of serum lipoproteins by chemical and physical methods. GERALDINE E. COGIN* AND MARY L. PETERMANN. *Sloan Kettering Inst., New York City.*

565. Chemical and isotopic tracer studies of human serum lipoproteins with aid of quantity ultracentrifuge. WILLIAM H. GOLDWATER, MALCOLM L. RANDOLPH, J. R. SNAVELY AND ROY H. TURNER (introduced by WILLIAM B. WENDEL). *Tulane Univ. School of Medicine, Depts. of Medicine and Biophysics, New Orleans, La.*

566. A method for ultracentrifugal analysis of α and β serum lipoproteins. ARDA ALDEN GREEN, LENA A. LEWIS* AND IRVINE H. PAGE. *Research Div., Cleveland Clinic Fndn., Cleveland, Ohio.*

567. The α and β lipo-protein pattern of normal and pathological human sera. LENA A. LEWIS, ARDA A. GREEN AND IRVINE H. PAGE. *Cleveland Clinic Research Div. and Frank A. Bunts Educational Inst., Cleveland, Ohio.* (Physiol.)

568. Polarographic study of plasma protein fractions and 'protein index.' OTTO H. MÜLLER. *Dept. of Physiology, State Univ. of New York Med. Center at Syracuse.* (Physiol.)

569. Relationship between polarographic protein wave height and total potential sulphydryl content of the protein. G. J. MILLAR (introduced by L. B. JAQUES). *Dept. of Physiology, Univ. of Saskatchewan, Saskatoon, Canada.* (Physiol.)

570. Protein SH and S-S groups by potentiometric silver titration. BENJAMIN GRUNBAUM* AND EDWARD L. DUGGAN (introduced by DAVID M. GREENBERG). *Dept. of Biochemistry, Univ. of California Med. School, Berkeley.*

Nutrition I

MONDAY, 9:00 A.M.—EXHIBIT HALL ROOM C

Chairman: Charles G. King

571. Biotin-like activity of octadecenoic acids as affected by positional- and stero-isomerization. SAMUEL M. GREENBERG,* AMBER L. S. CHENG,* DANIEL MELNICK AND HARRY J. DEUEL, JR. *Dept. of Biochemistry, School of Medicine, Univ. of Southern California, Los Angeles, and Best Foods, Inc., Bayonne, N. J.*

572. Growth promotion by α-keto and α-hydroxy acids and its relation to vitamin B_6. JOSEPH T. HOLDEN,* RUTH WILDMAN* AND ESMOND E. SNELL. *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

573. Structure-activity-relationships among analogs of dimethyldiaminobenzene as growth-inhibitors. D. W. WOOLLEY AND A. PRINGLE.* *Rockefeller Inst. for Med. Research, New York City.*

574. Vitamin B_T. I. Deficiency symptoms, method of testing, distribution, isolation procedures, and some properties. G. FRAENKEL (introduced by H. E. CARTER). *Dept. of Entomology, Univ. of Illinois, Urbana.*

575. Vitamin B_T. II. Purification and chemical studies. HERBERT E. CARTER, P. K. BHATTACHARYYA,* KATHARINE R. WEIDMAN* AND G. FRAENKEL.* *Depts. of Chemistry and Entomology, Univ. of Illinois, Urbana.*

576. Paper chromatography studies with Lactobacillus bulgaricus factors. CALVIN L. LONG, ROBERT A. MCRORIE AND WILLIAM L.

WILLIAMS (introduced by E. L. R. STOKSTAD). *Dept. of Biological Chemistry, North Carolina State College, Raleigh, and Lederle Labs. Div., American Cyanamid Co., Pearl River, N. Y.*

577. Microbiological activity of cortisone acetate. DOROTHY SUE GAINES AND HARRY P. BROQUIST (introduced by THOMAS H. JUKES). *Lederle Labs. Div., American Cyanamid Co., Pearl River, N. Y.*

578. A microbiological assay for β-alanine. CHARLES J. STEWART, PHILLIP E. LEVEQUE AND TSOO E. KING (introduced by VERNON H. CHELDELIN). *Dept. of Chemistry, Oregon State College, Corvallis.*

579. Investigations on golden nematode hatching factor. LOUIS M. MASSEY, JR. AND A. LESLIE NEAL (introduced by HAROLD H. WILLIAMS). *Dept. of Biochemistry and Nutrition, Cornell Univ., Ithaca, N. Y.*

580. Microbial growth inhibition by amino- and nitrophenylalanines. EARL FRIEDEN,* HORACE C. STANSEL, JR.* AND KARL DITTMER. *Dept. of Chemistry, Florida State Univ., Tallahassee.*

581. Metabolism of some amino acid analogs. EDWARD C. BUBL* AND JOSEPH S. BUTTS. *Oregon Agricultural Experiment Station, Dept. of Agricultural Chemistry, Corvallis.*

Purine and Pyrimidine Analogues

MONDAY, 9:00 A.M.—EXHIBIT HALL ROOM D

Chairman: D. Wright Wilson

582. Effect of aminopterin on nucleic acid metabolism in the rat. DAVID A. GOLDTHWAIT* AND AARON BENDICH. *Sloan-Kettering Inst. for Cancer Research, New York City.*

583. Effect of lowered essential metabolites on growth inhibition produced by 8-azaguanine (guanazolo). G. W. KIDDER, VIRGINIA C. DEWEY AND R. E. PARKS, JR.* *Biological Lab., Amherst College, Amherst, Mass.*

584. Metabolism of 8-azaguanine in mice and monkeys. H. GEORGE MANDEL,* EDWARD L. ALPEN* AND PAUL K. SMITH. *Dept. of Pharmacology, George Washington Univ. School of Medicine, Washington, D. C.*

585. Effect of 2,6-diaminopurine on purine metabolism in Neurospora. WILLIAM DRELL (introduced by N. H. HOROWITZ). *Kerckhoff Labs. of Biology, California Inst. of Technology, Pasadena.*

586. Effects of chemical modifications on antimetabolite activities of 2,6-diaminopurine. GERTRUDE B. ELION (introduced by G. H. HITCHINGS). *Wellcome Research Labs., Tuckahoe, N. Y.*

587. Antimetabolite effects of substances which contain the 2,4-diaminopyrimidine moiety. GEORGE H. HITCHINGS, ELVIRA A. FALCO, PETER B. RUSSELL AND HENRY VANDERWERFF. *Wellcome Research Labs., Tuckahoe, N. Y.*

588. Biological activity of substituted pyrimidine nucleosides. DONALD W. VISSER AND MARTIN ROBERTS (introduced by JOHN W. MEHL). *Univ. of Southern California, Dept. of Biochemistry and Nutrition, Los Angeles.*

Monday Afternoon, April 30, 1:15 p.m.

Coenzymes

MONDAY, 1:15 P.M.—EXHIBIT HALL ROOM E

Chairman: Arthur Kornberg

589. Coenzyme of calf spleen β-glucuronidase. PETER BERNFELD,* ARMAND J. GUARINO* AND WILLIAM H. FISHMAN. *Tufts College Med. School, Boston, Mass.*

590. Catalytic oxidation of chemically reduced diphosphopyridine nucleotide by cupric ion and cyanide. JACK L. STROMINGER (introduced by ROBERT F. FURCHGOTT). *Dept. of Pharmacology, Washington Univ., St. Louis, Mo.*

591. Enzymatic reaction between diphosphopyridine nucleotide (DPN) and reduced triphosphopyridine nucleotide ($TPNH_2$). SIDNEY P. COLOWICK, NATHAN O. KAPLAN AND MARGARET M. CIOTTI.* *McCollum-Pratt Inst., Johns Hopkins Univ., Baltimore, Md.*

592. Properties and occurrence of a diphosphopyridine nucleotide-splitting enzyme from *Neurospora*. ALVIN NASON (introduced by NATHAN O. KAPLAN). *McCollum-Pratt Inst., Johns Hopkins Univ., Baltimore, Md.*

593. Comparison of diphosphopyridine nucleotide (DPN) with desamino DPN in various enzyme systems. MAYNARD E. PULLMAN (introduced by SIDNEY P. COLOWICK). *McCollum-Pratt Inst. Johns Hopkins Univ., Baltimore, Md.*

594. Reactivation of norite-treated zymase with muscle glyceraldehyde-3-phosphate dehydrogenase as a source of DPN. EDWIN G. KREBS (introduced by EARL R. NORRIS). *Dept. of Biochemistry, Univ. of Washington School of Medicine, Seattle.*

595. Structure of coenzyme A. G. DAVID NOVELLI, J. DELAFIELD GREGORY, RUTH M. FLYNN AND FRANK J. SCHMETZ, JR. (introduced by

FRITZ LIPMANN). *Biochemical Research Lab., Massachusetts General Hosp., Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

596. Determination of coenzyme A. L. J. TEPLY AND WINIFRED ROGERS.* *Inst. for Enzyme Research, Univ. of Wisconsin, Madison.*

597. Fate of injected coenzyme A. WILLIAM M. GOVIER AND ANNA J. GIBBONS.* *Research Div., Upjohn Co., Kalamazoo, Mich.* (Pharmacol.)

598. Pyridoxal phosphate as accelerator for kidney DOPA decarboxylase and its inactivation by DOPA and related substances. HERMANN F. SCHOTT (introduced by WILLIAM G. CLARK). *Dept. of Physiological Chemistry, School of Medicine, Univ. of California, Los Angeles.* (Physiol.)

Isotopes; Carbon Dioxide Fixation

MONDAY, 1:15 P.M.—EXHIBIT HALL ROOM F

Chairman: Harland G. Wood

599. Determination of total and radioactive carbon. DONALD D. VANSLYKE, ROBERT STEELE* AND JOHN PLAZIN.* *Depts. of Biology and Medicine, Brookhaven Natl. Lab., Upton, L. I., N. Y.*

600. Degradation of alpha-ketoglutaric, glutamic and citric acids. E. H. MOSBACH, E. F. PHARES AND M. V. LONG (introduced by C. G. KING). *Biology Div., Oak Ridge Natl. Lab., Oak Ridge, Tenn.*

601. Degradation of biosynthetic glucuronic acid labeled with C^{14}. FRANK EISENBERG, JR.* AND SAMUEL GURIN. *Dept. of Physiological Chemistry, Univ. of Pennsylvania School of Medicine, Philadelphia.*

602. Fixation of CO_2 in acetic acid by *Clostridium thermoaceticum*. HARLAND G. WOOD AND D. L. HARRIS.* *Western Reserve Univ. School of Medicine, Dept. of Biochemistry, Cleveland, Ohio.*

603. Enzymatic formation of oxalacetate from pyruvate and CO_2. J. P. KALTENBACH* AND GEORGE KALNITSKY. *State Univ. of Iowa College of Medicine, Dept. of Biochemistry, Iowa City.*

604. Carbon dioxide fixation in relation to growth of *Serratia marcescens*. DOROTHY J. MCLEAN, ELIZABETH F. PURDIE AND NANCY HAWLEY ROBINSON (introduced by G. C. BUTLER). *Atomic Energy Project, Chalk River, Ontario, Canada.*

605. Formation of CO_2, lipid and carbohydrate from C^{14}-labeled glycerol. M. L. KARNOVSKY AND L. I. GIDEZ (introduced by E. G. BALL). *Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

606. Metabolism of C^{14}-labeled glycerol and C^{14}-labeled pyruvate by rat liver, in vitro. CHING-TSENG TENG,* A. BAIRD HASTINGS AND FRANCES B. NESBETT.* *Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

Amino Acid and Protein Chemistry

MONDAY, 1:15 P.M.—EXHIBIT HALL ROOM B

Chairman: Hubert B. Vickery

607. Separation of urinary amino acids by ion exchange chromatography. MARY E. CARSTEN (introduced by ISIDOR GREENWALD). *Dept. of Chemistry, New York Univ. College of Medicine, New York City.*

608. Color reactions of amino and imino acids with ninhydrin. WALTER TROLL* AND R. KEITH CANNAN. *Dept. of Chemistry, New York Univ. College of Medicine, New York City.*

609. Reactions of xanthydrol with certain amino acids and proteins. SHERMAN R. DICKMAN AND WAYNE L. WESTCOTT (introduced by LEO T. SAMUELS). *Dept. of Biological Chemistry, Univ. of Utah College of Medicine, Salt Lake City.*

610. Ultraviolet absorption spectra of peptides and amino acids. LEO J. SAIDEL AND A. ROBERT GOLDFARB (introduced by THEODORE WINNICK). *Dept. of Biochemistry, Chicago Med. School, Chicago, Ill.*

611. Binding of thiazine by plasma albumin and by nucleic acid. H. BRUCE COLLIER AND GORDON M. ALLENBY.* *Dept. of Biochemistry, Univ. of Alberta, Edmonton, Canada.*

612. Interaction of quinoline and acridine derivatives with plasma proteins. J. LOGAN IRVIN, ELINOR MOORE IRVIN* AND FRANK S. PARKER.* *Johns Hopkins School of Medicine, Dept. of Physiological Chemistry, Baltimore, Md. and Univ. of North Carolina Dept. of Biological Chemistry and Nutrition, Chapel Hill.*

613. Chromatographic analysis of protein mixtures on a cation exchange resin. HERBERT A. SOBER AND GERSON KEGELES (introduced by JESSE P. GREENSTEIN). *Natl. Cancer Inst., Natl. Insts. of Health, Bethesda, Md.*

614. A spectroscopic study of oxidation by tyrosinase of certain proteins, protein hydrolysates and synthetic derivatives of tyrosine. WARD J. HAAS,* IRWIN W. SIZER AND JOHN R. LOOFBOUROW.* *Dept. of Biology, Massachusetts Inst. of Technology, Cambridge.* (Physiol.)

615. Electrophoretic studies of human serum albumin at pH 4.5. JOHN G. REINHOLD AND LOGAN GILMAN.* *Pepper Lab. of Clin. Medi-*

cine, Hosp. of Univ. of Pennsylvania, Philadelphia.

616. Electrophoretic analyses of rat blood serum proteins and urinary proteins after injection of materials proposed as blood substitutes. ELOISE JAMESON (introduced by WALTER MARX). *Dept. of Medicine, Univ. of Southern California, Los Angeles.*

617. Egg white proteins. FRANK A. CSONKA AND MERRIAM A. JONES.* *Bureau of Home Nutrition and Home Economics and Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Dept. of Agriculture, Washington, D. C.*

Nutrition II

MONDAY, 1:15 P.M.—EXHIBIT HALL ROOM C

Chairman: Conrad A. Elvehjem

618. Relation of tryptophan and niacin to liver pyridine nucleotides. PHILIP FEIGELSON AND J. N. WILLIAMS, JR. (introduced by C. A. ELVEHJEM). *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

619. N^{15} studies on course of synthesis of niacin in Neurospora. C. W. H. PARTRIDGE* AND DAVID M. BONNER. *Osborn Botanical Lab., Yale Univ., New Haven, Conn.*

620. Evidence for formation of an intermediate in metabolism of 3-hydroxyanthranilic acid. ANN H. BOKMAN* AND B. S. SCHWEIGERT. *Div. of Biochemistry and Nutrition, American Meat Inst. Fndn., and Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

621. Metabolism of radioactive nicotinic acid and nicotinamide in the rat. B. CONNOR JOHNSON AND PEI-HSING LIN.* *Div. of Animal Nutrition, Univ. of Illinois, Urbana.*

622. Cholesterol metabolism in pantothenic acid deficiency. AGNES FAY MORGAN AND RAYMOND R. GUEHRING.* *Dept. of Home Economics, Univ. of California, Berkeley.*

623. A bioassay procedure for unidentified dietary factor related to xanthine oxidase. DAN A. RICHERT* AND W. W. WESTERFELD. *Biochemistry Dept., Syracuse Med. College, Syracuse, N. Y.*

624. Specificity of hemolytic reaction in tocopherol-deficient erythrocytes. CATHERINE S. ROSE* AND PAUL GYÖRGY. *Nutritional Service of Dept. of Pediatrics and Gastrointestinal Section of Med. Clinic, School of Medicine, Univ. of Pennsylvania, Philadelphia.*

625. Changes in concentration and type of hepatic alkaline phosphatase due to dietary deficiency and regeneration. OTTO ROSENTHAL, JAMES C. FAHL* AND EDWIN J. WELLS.* *Harrison Dept. of Surgical Research, School of Medicine, Univ. of Pennsylvania, Philadelphia.*

626. Effect of pyridoxine deficiency upon respiration and transaminase activity of cardiac muscle in ducklings. MYRON BRIN AND ROBERT E. OLSON (introduced by H. C. TRIMBLE). *Dept. of Nutrition, Harvard School of Public Health and Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

627. Effect of ethionine on choline oxidase system. MARIAN E. SWENDSEID, ANN LOUISE SWANSON* AND FRANK H. BETHELL.* *Univ. of Michigan, Simpson Memorial Inst., Ann Arbor.*

628. Effect of methionine sulfoximine on different species of animals. S. N. GERSHOFF* AND C. A. ELVEHJEM. *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

Virus, Bacteriophage and Related Topics

MONDAY, 1:15 P.M.—EXHIBIT HALL ROOM D

Chairman: Arnold K. Balls

629. Factors required for growth of Donovan body (*D. granulomatis*). W. KNOWLTON HALL, CALVIN H. CHEN* AND ROBERT B. DIENST.* *Depts. of Biochemistry and Microbiology, Med. College of Georgia, Augusta.*

630. Relationship between parent infecting virus and virus progeny. LLOYD KOZLOFF (introduced by H. S. ANKER). *Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

631. Utilization of host phosphorus in virus reproduction. E. A. EVANS, JR., FRANK W. PUTNAM AND DEAN MILLER.* *Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

632. Origin of carbon, nitrogen, and phosphorus of T_6 bacteriophage. M. S. H. SIDDIQI (introduced by FRANK W. PUTNAM). *Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

633. Purine metabolism during bacteriophage growth. ARTHUR L. KOCH (introduced by E. A. EVANS, JR.). *Dept. of Biochemistry, Univ. of Chicago, Chicago, Chicago, Ill.*

634. Agglutination of virus particles and bacterial cells by synthetic polypeptides. WARREN C. BURGER AND MARK A. STAHMANN (introduced by ROBERT H. BURRIS). *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

635. Use of serum albumin as source of serum factor in pneumococcal transformation. ROLLIN D. HOTCHKISS AND HARRIETT EPHRUSSI-TAYLOR.* *Hosp. of Rockefeller Inst., New York City.*

636. Mutagenic activity of compounds related to mustard gas. CARL M. STEVENS AND AUGUSTA

MYLROIE (introduced by C. S. VESTLING). *State College of Washington, Fulmer Chemical Lab., Pullman.*

637. Genetic differences in requirement for ribosenucleic acid and glycine in Drosophila melanogaster. JACK SCHULTZ AND MARGARET MANN SERVICE (introduced by T. F. LAVINE). *Dept. of Genetics and Cytochemistry, Inst. for Cancer Research and Lankenau Hosp. Research Inst., Philadelphia, Pa.*

Biochemistry Society Business Meeting

MONDAY, 4:00 P.M.—BALLROOM

Joint Session of the Federation

MONDAY, 8:00 P.M.—MUSIC HALL

Program on page 428

Mixer—Informal Reception

MONDAY, 10:00 P.M.—EXHIBITION HALL

Tuesday Morning, May 1, 9:00 a.m.

Enzymes I

TUESDAY, 9:00 A.M.—EXHIBIT HALL ROOM E

Chairman: Jesse P. Greenstein

638. Substrate specificity of rabbit polymorphonuclear leucocyte ali-esterase. ESTHER WONG (introduced by A. B. MACALLUM). *Dept. of Biochemistry, Univ. of Western Ontario, London, Canada.*

639. Hydrolysis of hyaluronic acid by pneumococcal hyaluronidase. MAURICE M. RAPPORT AND ALFRED LINKER.* *Dept. of Medicine, Columbia Univ. College of Physicians and Surgeons, and Edward Daniels Faulkner Arthritis Clinic of Presbyterian Hosp., New York City.*

640. Hydrolysis of glucuronidic linkage of hyaluronic acid. KARL MEYER AND ALFRED LINKER.* *Dept. of Medicine, Columbia Univ. College of Physicians and Surgeons, and Edward Daniels Faulkner Arthritis Clinic of Presbyterian Hosp., New York City.*

641. Purification of acetylcholinesterase. SUMNER LEVINE (introduced by DAVID SHEMIN). *Dept. of Neurology, Columbia Univ. College of Physicians and Surgeons, New York City.*

642. Cholinesterase activity in different spinal cord levels of the chick embryo. BYRON S. WENGER (introduced by OLIVER H. LOWRY). *Dept. of Pharmacology, Washington Univ., St. Louis, Mo.*

643. Reversal of tetraethyl pyrophosphate inhibition of acetylcholinesterase. IRWIN B. WILSON (introduced by G. L. FOSTER). *Dept. of Neurology, Columbia Univ. College of Physicians and Surgeons, New York City.*

644. Phosphorolysis of nicotinamide riboside. JOHN W. ROWEN* AND ARTHUR KORNBERG. *Natl. Insts. of Health, Bethesda, Md.*

645. Enzymatic formation of inorganic pyrophosphate from ATP. LEON A. HEPPEL AND R. J. HILMOE.* *Natl. Insts. of Health, Bethesda, Md.*

646. Dephosphorylation of adenosine triphosphate by homogenates and intracellular constituents of rat liver. ALEX B. NOVIKOFF, LISELOTTE HECHT AND ESTELLE PODBER (introduced by HARRY G. ALBAUM). *Depts. of Pathology and Biochemistry, Univ. of Vermont College of Medicine, Burlington.*

647. Effect of beryllium on plant phosphatase. MAHLON B. HOAGLAND (introduced by LEWIS L. ENGEL). *Med. Labs. of C. P. Huntington Memorial Hosp. of Harvard Univ., Massachusetts General Hosp., Boston.*

648. Chromatographic separation of phosphatases of snake venom. R. O. HURST* AND G. C. BUTLER. *Dept. of Biochemistry, Univ. of Toronto, Toronto, Ontario, Canada.*

Steroid Hormones

TUESDAY, 9:00 A.M.—EXHIBIT HALL ROOM F

Chairman: Edward A. Doisy

649. Nature of estrone conjugate in human pregnancy urine. IRVING ONESON* AND SAUL L. COHEN. *Dept. of Physiological Chemistry, Univ. of Minnesota Med. School, Minneapolis.*

650. Excretion of radioactive 17-methylestradiol. BERNADETTE C. BOCKLAGE,* E. A. DOISY, JR.,* WILLIAM H. ELLIOTT,* S. A. THAYER, HAROLD J. NICHOLAS* AND EDWARD A. DOISY. *Depts. of Biochemistry and Internal Medicine, St. Louis Univ. School of Medicine, St. Louis, Mo.*

651. Fate of C^{14}-diethylstilbestrol in adult female rats. DONALD J. HANAHAN, HYP J. DAUBEN, E. G. DASKALAKIS, T. EDWARDS AND R. J. MEIKLE (introduced by HANS NEURATH). *Dept. of Biochemistry, School of Medicine, and Dept. of Chemistry, Univ. of Washington, Seattle.*

652. Simultaneous biliary and urinary exogenous estrogen excretion studies in man. BENJAMIN F. STIMMEL. *Rees-Stealy Clinic Research Fndn., San Diego, Calif.*

653. Metabolic studies with deuterium steroid hormones. DAVID K. FUKUSHIMA,* KONRAD DOBRINER AND T. F. GALLAGHER. *Sloan-Kettering Inst. for Cancer Research, New York City.*

654. Isolation of allopregnanol-3(β)-one-20 and pregnanediol-3(α),20(α) from human placental extracts. W. H. PEARLMAN AND EMILY CERCEO.* *Dept. of Biochemistry, Jefferson Med. College, Philadelphia, Pa.*

655. Conversion of C^{14} labeled acetate and cholesterol to adrenocortical hormones by perfused adrenal glands. A. ZAFFARONI,* O. HECHTER AND G. PINCUS. *Dept. of Biochemistry, Univ. of Rochester Med. School, Rochester, N. Y. and Worcester Fndn. for Exptl. Biology, Shrewsbury, Mass.* (Physiol.)

656. Incorporation of radioacetate into 17-hydroxycorticosterone by adrenal cortex slices. E. D. NIELSON, N. A. DRAKE AND W. J. HAINES (introduced by M. H. KUIZENGA). *Upjohn Company, Research Labs., Kalamazoo, Mich.*

657. Paper withdrawn.

658. Isolation of adrenocortical compounds from normal male urine. JOHN J. SCHNEIDER. *Jefferson Med. College, Dept. of Exptl. Medicine, Philadelphia, Pa.*

659. Steroid excretion after administration of ACTH in man. SEYMOUR LIEBERMAN, LUCIE B. HARITON,* M. B. STOKEM,* P. E. STUDER* AND KONRAD DOBRINER. *Sloan-Kettering Inst. for Cancer Research, New York City.*

660. Enzymatically hydrolyzed urinary neutral lipids. RALPH A. KINSELLA, JR., BILLY BAGGETT AND JOHN H. GLICK, JR. (introduced by PHILIP A. KATZMAN). *Dept. of Biochemistry, St. Louis Univ. School of Medicine, St. Louis, Mo.*

Nucleic Acid Chemistry

TUESDAY, 9:00 A.M.—EXHIBIT HALL ROOM B

Chairman: Rollin D. Hotchkiss

661. A high molecular weight nucleoprotein found in cytoplasms of a variety of healthy plant leaves. S. J. SINGER, LUTHER EGGMAN, JEAN M. CAMPBELL AND SAM G. WILDMAN (introduced by CARL NIEMANN). *Kerckhoff Labs. of Biology, California Inst. of Technology, Pasadena.*

662. Liver desoxyribonucleoprotein. J. MURRAY LUCK, ROBERT BRUNISH,* DELOREZ FAIRLEY,* DONALD KUPKE* AND ALBERTA RHEIN.* *Dept. of Chemistry, Stanford Univ., Stanford, Calif.*

663. Isolation of 5′ nucleotides from nucleic acid digests. WALDO E. COHN AND ELLIOT VOLKIN.* *Oak Ridge Natl. Lab., Biology Div., Oak Ridge, Tenn.*

664. Structure of nucleic acids. III. Kinetics of alkaline hydrolysis of pentose nucleic acid. LIEBE F. CAVALIERI AND LOUIS P. HAMMETT (introduced by GEORGE BOSWORTH BROWN). *Chemistry Lab., Columbia Univ., and Sloan-Kettering Inst. for Cancer Research, New York City.*

665. Nucleotide composition of pentose nucleic acids from different fractions of the hepatic cell. DAVID ELSON* AND ERWIN CHARGAFF. *Dept. of Biochemistry, Columbia Univ., New York City.*

666. Paper chromatographic studies on products of enzymatic degradation of desoxyribonucleic acid. H. R. SKEGGS,* W. BAUMGARTEN,* J. SPIZIZEN* AND L. D. WRIGHT. *Med. Research Div. Sharp and Dohme, Inc., Glenolden, Pa.*

667. Attempts to identify a fraction isolated from an enzymatic digest of desoxyribonucleic acid. JOSEPH L. POTTER,* K. D. BROWN* AND M. LASKOWSKI. *Dept. of Biochemistry, Marquette Univ. School of Medicine, Milwaukee, Wis.*

668. An improved method for preparing sodium desoxypentose nucleate. ALEXANDER L. DOUNCE, NORMAN S. SIMMONS* AND ERNEST R. M. KAY.* *Depts. of Pathology and Biochemistry, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.*

669. Nucleic acid content in relation to cell size in mature larval salivary gland of *Drosophila melanogaster*. ELIZABETH K. PATTERSON AND MARJORIE E. DACKERMAN (introduced by GERRIT TOENNIES). *Dept. of Genetics and Cytochemistry, Lankenau Hosp. Research Inst. and Inst. for Cancer Research, Philadelphia, Pa.*

670. Desoxyribonucleic acid content per nucleus in rat thymus damaged by β-radiation. HELEN HARRINGTON AND PAUL S. LAVIK (introduced by J. R. LEONARDS). *Atomic Energy Med. Research Project, Western Reserve Univ., Cleveland, Ohio.*

671. Effect of transplanted tumors on nucleic acid content of mouse tissues. D. V. N. REDDY* AND LEOPOLD R. CERECEDO. *Dept. of Biochemistry, Fordham Univ., New York City.*

672. Phosphorus compounds in peripheral nerve during Wallerian degeneration. R. J. ROSSITER, J. E. LOGAN* AND W. A. MANNELL.* *Dept. of Biochemistry, Univ. of Western Ontario, London, Canada.*

Lipid Metabolism

TUESDAY, 9:00 A.M.—EXHIBIT HALL ROOM C

Chairman: E. W. McHenry

673. Metabolic products of bacteria-free *Ascaris lumbricoides*. ERNEST BUEDING AND HELEN W. YALE.* *Dept. of Pharmacology, Western Reserve Univ., Cleveland, Ohio.*

674. Extrahepatic lipid oxidation by the rat. R. P. GEYER, W. R. WADDELL, J. PENDERGAST AND G. YEE (introduced by F. J. STARE). *Dept. of Nutrition, Harvard School of Public Health, Boston, Mass.*

675. Phospholipide synthesis in diabetic dogs. D. B. ZILVERSMIT. *Div. of Physiology, Univ. of Tennessee School of Biological Sciences, Memphis.* (Physiol.)

676. Comparative rates of renewal of choline and phosphate groups in phospholipids of rat liver. MARIAN TOLBERT* AND RUTH OKEY. *Dept. of Home Economics, Univ. of California, Berkeley.*

677. Incorporation of labeled choline in phospholipides of isolated liver tissue. CAMILLO ARTOM, MARIETTA CROWDER* AND MARJORIE A. SWANSON. *Dept. of Biochemistry, Bowman Gray School of Medicine, Winston-Salem, N. C.*

678. Free choline in plasma. HAROLD D. APPLETON,* BETTY B. LEVY,* J. MURRAY STEELE* AND BERNARD B. BRODIE. *New York Univ. Research Service, Goldwater Memorial Hosp., New York City, and Natl. Heart Inst., Natl. Insts. of Health, Bethesda, Md.*

679. Hydrogenation of polyunsaturated fatty acids by the ruminant. RAYMOND REISER (introduced by KENNETH A. KUIKEN). *Texas Agricultural and Mechanical College System, College Station.*

680. Effect of choline on fat absorption. H. C. TIDWELL AND MARY E. NAGLER.* *Biochemistry Dept., Southwestern Med. School, Dallas, Tex.*

681. Accumulation of glycerylphosphorylcholine during incubation of minced rat intestines. GERHARD SCHMIDT, LISA HECHT* AND S. J. THANNHAUSER. *Boston Dispensary, Tufts College Med. School, Boston, Mass.*

682. Fecal fatty acids and other lipids: a study of two normal human adults taking *1*) a diet free of lipid and *2*) a diet containing triolein as the only lipid. ERIC E. WOLLAEGER,* WALTER O. LUNDBERG, JACQUES R. CHIPAULT* AND HAROLD L. MASON. *Hormel Inst., Austin, and Mayo Fndn., Rochester, Minn.*

683. Liver lipids in threonine and lysine deficiencies in the rat. S. A. SINGAL, S. J. HAZAN,* V. P. SYDENSTRICKER* AND JULIA M. LITTLEJOHN.* *Med. College of Georgia, Augusta.*

Tuesday Afternoon, May 1, 1:15 p.m.

Oxidative Enzymes I

TUESDAY, 1:15 P.M.—EXHIBIT HALL ROOM E

Chairman: Eric G. Ball

684. Enzymatic oxidation of molecular hydrogen by bacterial extracts. HOWARD GEST (introduced by L. O. KRAMPITZ). *Dept. of Microbiology, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

685. Cytochrome system of *Trypanosoma crusi*. H. D. BAERNSTEIN AND E. J. TOBIE.* *Natl. Insts. of Health, Bethesda, Md.*

686. Spectrophotometric measurements of cytochrome components of succinic oxidase system. BRITTON CHANCE. *Johnson Research Fndn., Univ. of Pennsylvania, Philadelphia.*

687. Titration of a succinoxidase component by antimycin. V. R. POTTER AND A. E. REIF.* *Memorial Lab., Univ. of Wisconsin Med. School, Madison.*

688. Cytochrome *b*. HAROLD W. CLARK,* HAROLD A. NEUFELD* AND ELMER STOTZ. *Dept. of Biochemistry, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.*

689. Purification of cytochrome oxidase. LUCILE SMITH (introduced by BRITTON CHANCE). *Johnson Research Fndn., Univ. of Pennsylvania, Philadelphia.*

690. Stability of cytochrome *c* in solution. W. L. HOLMES* AND A. M. WYNNE. *Dept. of Biochemistry, Univ. of Toronto, Toronto, Ontario, Canada.*

691. Oxidation of nitroethane by extracts from *Neurospora*. HENRY N. LITTLE (introduced by VICTOR A. NAJJAR). *McCollum-Pratt Inst., Johns Hopkins Univ. Baltimore, Md.*

Carbohydrate Metabolism I

TUESDAY, 1:15 P.M.—EXHIBIT HALL ROOM F

Chairman: Earl A. Evans, Jr.

692. Acetoin synthesis in highly purified carboxylase preparations. THOMAS P. SINGER AND JACK PENSKY.* *Dept. of Biochemistry, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

693. Enzymes of oxidative decarboxylation of pyruvate. SEYMOUR KORKES,* ALICE DEL CAMPILLO* AND I. C. GUNSALUS. *Dept. of Pharmacology, New York Univ. College of Medicine, New York City.*

694. Transacetylation in choline acetylating system. SAUL R. KOREY (introduced by DAVID NACHMANSOHN). *Dept. of Neurology, Columbia Univ., College of Physicians and Surgeons, New York City.* (Physiol.)

695. Kinetics of peptide bond formation. D. E. KOSHLAND, JR. (introduced by JOHN T. EDSALL). *Dept. of Chemistry, Harvard Univ., Cambridge, Mass.*

696. Acetate oxidation by *Micrococcus lysodeikticus*. HOWARD J. SAZ* AND L. O. KRAMPITZ. *Dept. of Microbiology, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

697. Metabolism of 2-carbon acids in the intact rat. BERNICE FRIEDMANN,* H. I. NAKADA* AND S. WEINHOUSE. *Lankenau Hosp. Research Inst. and Inst. for Cancer Research, Philadelphia, Pa.*

698. Metabolism of acetone. WARWICK SAKAMI AND JEAN LAFAYE.* *Dept. of Biochemistry, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

699. Enzymatic incorporation of C^{14} carbonate

into acetoacetate in the presence of various substrates. G. W. E. PLAUT (introduced by HENRY A. LARDY). *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

700. Enzymatic synthesis and breakdown of citric acid. JOSEPH R. STERN,* BENJAMIN SHAPIRO,* EARL R. STADTMAN* AND SEVERO OCHOA. *Dept. of Pharmacology, New York Univ. College of Medicine, New York City.*

701. A quantitative study of acids of tricarboxylic acid cycle under certain metabolic conditions. CHARLES E. FROHMAN,* JAMES M. ORTEN AND ARTHUR H. SMITH. *Dept. of Physiological Chemistry, Wayne Univ. College of Medicine, Detroit, Mich.*

702. Oxidation of tricarboxylic acid cycle intermediates by lactating mammary gland cyclophorase. RICHARD O. MOORE AND WALTER L. NELSON (introduced by JAMES B. SUMNER). *Dept. of Biochemistry and Nutrition, Cornell Univ., Ithaca, N. Y.*

Hormones: Metabolic Effects

TUESDAY, 1:15 P.M.—EXHIBIT HALL ROOM B

Chairman: Ancel M. Keys

703. Chemical studies on relaxin. EDWARD H. FRIEDEN. *Biological Labs., Harvard Univ., Cambridge, Mass.*

704. Influence of adrenal cortex on serum and liver protein regeneration in the partially-hepatectomized rat. SIDNEY ROBERTS. *Univ. of California School of Medicine, Dept. of Physiological Chemistry, Los Angeles.*

705. Influence of an adrenal steriod, Reichstein's compound L, 3 β-acetoxy-17α-hydroxyallopregnan-20-one, on the levels of vitamin A in the plasma, liver and kidney of the rat. OSCAR BODANSKY AND BLANCH MARKARDT.* *Memorial Center for Cancer and Allied Diseases, New York City.*

706. Isolation of adrenocorticotrophin (ACTH) and thyrotrophin (TSH) from hog pituitary tissue. B. N. GHOSH,* DIXON M. WOODBURY,* GEORGE SAYERS* AND EMIL L. SMITH. *Dept. of Pharmacology and Lab. for Study of Hereditary and Metabolic Disorders, Univ. of Utah, Salt Lake City.*

707. Early effects of testosterone propionate on accessory sex glands of castrate rats. GUILFORD G. RUDOLPH AND GEORGE R. MENEELY (introduced by NORMAN S. OLSEN). *Radioisotope Unit, Veterans Administration Hosp. and Depts. of Biochemistry and Medicine, Vanderbilt Univ., Nashville, Tenn.*

708. Mechanism of nitrogen storage. VI. Plasma proteins in induced states of nitrogen storage. PAUL D. BARTLETT. *Edsel B. Ford Inst. for Med. Research, Henry Ford Hosp., Detroit, Mich.*

709. Nature of alterations in activity of alkaline phosphatase in tissues of hypophysectomized rats. JAMES C. MATHIES (introduced by O. H. GAEBLER). *Edsel B. Ford Inst. for Med. Research, Henry Ford Hosp., Detroit, Mich.*

710. Purification and amino acid content of pressor principle (vasopressin) of posterior lobe of pituitary. ROBERT A. TURNER,* JOHN G. PIERCE* AND VINCENT DU VIGNEAUD. *Dept. of Biochemistry, Cornell Univ. Med. College, New York City.*

711. Effect of various hormones on content and conversion of radioactive iodine (I^{131}) in rat thyroid. ALBERT L. BOTKIN* AND H. JENSEN. *Army Med. Service Field Research Lab., Fort Knox, Ky.*

712. Relative affinity of thyroid for Br, I and Re. EMIL J. BAUMANN, NORMA Z. SEARLE,* A. AARON YALOW,* EDWARD SIEGEL* AND S. M. SEIDLIN.* *Montefiore Hosp., New York City.*

713. Standards for protein-bound iodine concentration in serum of men of certain age groups. ROBERT G. TUCKER (introduced by ANCEL KEYS). *Lab. of Physiological Hygiene, Univ. of Minnesota, Minneapolis.*

Lipid Chemistry and Cholesterol Metabolism

TUESDAY, 1:15 P.M.—EXHIBIT HALL ROOM C

Chairman: Walter R. Bloor

714. Determination of acetone, acetoacetate and β-hydroxybutyrate. WARREN M. SPERRY AND FLORENCE C. BRAND.* *Dept. of Biochemistry, New York State Psychiatric Inst., New York City.*

715. Separation of saturated and unsaturated fatty acids by displacement chromatography. WILLIAM T. WILLIAMS* AND RALPH T. HOLMAN. *Dept. of Biochemistry and Nutrition, Texas Agricultural Experiment Station, College Station.*

716. Microdetermination of phospholipids and sphingolipids in brain. ELI ROBINS* AND OLIVER H. LOWRY. *Depts. of Pharmacology and Neuropsychiatry, Washington Univ., St. Louis, Mo.*

717. A trypsin-resistant lipide-protein complex isolated from brain white matter proteins. J. FOLCH AND F. N. LEBARON.* *McLean Hosp., Waverly, and Harvard Med. School, Boston, Mass.*

718. Incorporation of deuterium into plasma and liver cholesterol of the rat under different dietary conditions. ROSYLN B. ALFIN-SLATER,* MICHAEL C. SCHOTZ,* FRANK K. SHIMODA* AND HARRY J. DEUEL, JR. *Dept. of*

Biochemistry and Nutrition, Univ. of Southern California School of Medicine, Los Angeles.

719. Effect of fasting upon lipogenesis in the intact animal. T. T. HUTCHENS, J. T. VAN BRUGGEN, C. K. CLAYCOMB AND W. J. CATHEY (introduced by E. S. WEST). *Dept. of Biochemistry, Univ. of Oregon Med. School, Portland.*

720. Formation of fatty acids and cholesterol from radioactive acetate and glucose in rat heart, liver and hepatoma. ROBERT E. OLSON, EMILY G. HIRSCH AND MARY C. JONES (introduced by HALVOR N. CHRISTENSEN). *Dept. of Nutrition, Harvard School of Public Health, and Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

721. Relation of coenzyme A to steroid and total lipid synthesis in yeast. HAROLD P. KLEIN (introduced by CLAUDE A. VILLEE). *Biochemical Research Lab., Massachusetts General Hosp., and Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

722. Origin of plasma cholesterol using carbon^{14}. R. GORDON GOULD, DONALD J. CAMPBELL,* C. BRUCE TAYLOR,* FRANK B. KELLY, JR,* IRVING WARNER* AND CARL B. DAVIS, JR.* *Rush Depts. of Biochemistry, Pathology and Surgery, Presbyterian Hosp., Chicago, Ill.*

723. Metabolism of cholesterol: absorption, tissue distribution, and fatty acid synthesis. J. T. VAN BRUGGEN,* T. T. HUTCHENS* AND E. S. WEST. *Dept. of Biochemistry, Univ. of Oregon Med. School, Portland.*

724. Intestinal flora and cholesterol metabolism. WALTER MARX AND ELSIE WAINFAN.* *Dept. of Biochemistry and Nutrition, Univ. of Southern California, Los Angeles.*

Inorganic Metabolism

TUESDAY, 1:15 P.M.—EXHIBIT HALL ROOM D

Chairman: David M. Greenberg

725. Distribution of water, electrolytes, nitrogen and chondroitin sulfate in hyaline cartilages. THOMAS D. BROWER,* LILLIAN EICHELBERGER AND MICHAEL ROMA.* *Div. of Orthopedic Surgery, Univ. of Chicago, Chicago, Ill.*

726. Role of phosphatase. W. F. NEUMAN, V. DISTEFANO* AND B. J. MULRYAN.* *Dept. of Radiation Biology, Univ. of Rochester, Rochester, N. Y.*

727. Effects of an anterior pituitary extract and thyrotropin on renal excretion of administered radiophosphorus. E. M. ZORN,* W. R. TWEEDY AND G. V. LEROY.* *Radioisotope Unit, Veterans Administration Hosp., Hines, Ill.*

728. Removal and distribution of P^{32} following its injection as buffered phosphate, colloidal calcium or chromium phosphate. JOHN A. D. COOPER AND JACOB R. SUKER (introduced by CHESTER J. FARMER). *Dept. of Physiological Chemistry, Northwestern Univ. Med. School, Chicago, Ill.*

729. Ultraspectrophotometrical studies of mouse tumors treated with colloid Au^{198}. M. SPIEGEL-ADOLF AND R. ROBBINS.* *Depts. of Colloid Chemistry and Radiology, Temple Univ. Med. School, Philadelphia, Pa.*

730. Radioautographic visualization of sulfur-35 disposition in articular cartilage and bone of suckling rats following administration of labeled sodium sulfate. DOMINIC D. DZIEWIATKOWSKI. *Hosp. of Rockefeller Inst. for Med. Research, New York City.*

731. Cortisone and sulfate metabolism of animal tissues. LAURENCE L. LAYTON (introduced by PHILIP L. HARRIS). *Johns Hopkins Univ., Baltimore, Md.*

732. Quantitative micro and macro analysis of cations and anions by flame photometry. T. E. WEICHSELBAUM, P. L. VARNEY* AND H. V. MARGRAF.* *Dept. of Surgery, Washington Univ. School of Medicine, St. Louis, Mo.*

733. Blood pH determinations: A new and accurate clinical method. FRANK GRAIG, KURT LANGE AND STEVE CARSON (introduced by M. G. MULINOS). *Dept. of Medicine, New York Med. College, New York City.* (Pharmacol.)

734. Form of binding of copper in serum. C. J. GUBLER,* M. E. LAHEY,* D. M. BROWN,* EMIL L. SMITH, G. E. CARTWRIGHT* AND M. M. WINTROBE. *Depts. of Medicine, Pediatrics and Biochemistry, Univ. of Utah College of Medicine, Salt Lake City.* (Pathol.)

735. Determination of serum iron. JOHN W. MEHL AND JACQUELINE GERJUOY.* *Dept. of Biochemistry and Nutrition, Univ. of Southern California School of Medicine, Los Angeles.*

736. Urinary excretion of thiosulfate by adult rats. JOSEPH H. GAST AND KAZKO ARAI (introduced by C. R. TREADWELL). *Dept. of Biochemistry, Baylor Univ. College of Medicine, Houston, Tex.*

Federation Discussion Meeting

Open to Members of All Societies

TUESDAY, 4:00 P.M.—MUSIC HALL

Wednesday Morning, May 2, 9:00 a.m.

Phosphorylation

WEDNESDAY, 9:00 A.M.—EXHIBIT HALL ROOM E

Chairman: Carl F. Cori

737. Purification of liver phosphorylase. EARL W. SUTHERLAND. *Dept. of Biochemistry, Washington Univ. School of Medicine, St. Louis, Mo.*

738. Mechanism of holophosphorylase action. IRWIN FEIGIN, JEROME FREDRICK AND ABNER WOLFE (introduced by HANS T. CLARKE). *Veterans Administration Hosp., Bronx, Depts. of Pathology and Neurology, Columbia Univ., and Neurological Inst., New York City.*

739. Role of adenosine triphosphate in molecular transformations of actin. W. F. H. M. MOMMAERTS (introduced by P. HANDLER). *Dept. of Biochemistry, Duke Univ. School of Medicine, Durham, N. C.*

740. Mechanism of potassium activation of phosphate transfer. J. F. KACHMAR* AND P. D. BOYER. *Div. of Agricultural Biochemistry, Univ. of Minnesota, St. Paul.*

741. Phosphorylation reactions of adenosine phosphates in isolated liver mitochondria. W. WAYNE KIELLEY AND RUTH K. KIELLEY (introduced by S. J. THANNHAUSER). *Dept. of Physiology, Tufts College Med. School, Boston, Mass., and Natl. Cancer Inst., Bethesda, Md.*

742. Respiration and phosphorylation with liver mitochondria of normal, hypo-, and hyperthyroid rats. HERMANN NIEMEYER,* ROBERT K. CRANE,* EUGENE P. KENNEDY* AND FRITZ LIPMANN. *Biochemical Research Lab., Massachusetts General Hosp., and Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

743. Effect of dinitrophenol on phosphorylations coupled with oxidation of α-ketoglutarate. F. EDMUND HUNTER, JR. AND SIDNEY SPECTOR.* *Pharmacology Dept., Washington Univ., St. Louis, Mo.*

744. Adenosine triphosphate formation due to succinate oxidation. DAVID F. HERSEY AND SAMUEL J. AJL (introduced by M. D. KAMEN). *Dept. of Bacteriology and Immunology, Washington Univ. School of Medicine, St. Louis, Mo.*

745. Coupling of hydrogen transport with phosphorylation in *E. coli* extracts. G. B. PINCHOT* AND E. RACKER. *Dept. of Microbiology, New York Univ. College of Medicine, New York City.*

746. Enzymatic phosphorylation of riboflavin. E. B. KEARNEY AND SASH ENGLARD (introduced by THOMAS P. SINGER). *Dept. of Biochemistry, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

Nucleic Acid Metabolism

WEDNESDAY, 9:00 A.M.—EXHIBIT HALL ROOM F

Chairman: George B. Brown

747. Isolation of C^{14}-labelled purines and pyrimidines from biological materials. JACQUES R. FRESCO* AND ALFRED MARSHAK. *Dept. of Chemistry, New York Univ. College of Medicine, New York City.* (Physiol.)

748. Rates of synthesis and turnover of proteins and nucleic acid purines in the rat. EVELYN P. TYNER,* CHARLES HEIDELBERGER AND G. A. LEPAGE. *McArdle Memorial Lab., Univ. of Wisconsin, Madison.*

749. Utilization of purine nucleotides for nucleic acid synthesis by the rat. PAUL M. ROLL AND IRVING WELIKY.* *Sloan-Kettering Inst. for Cancer Research, New York City.*

750. Synthesis of purine in dialyzed liver extracts. G. ROBERT GREENBERG (introduced by HARLAND G. WOOD). *Dept. of Biochemistry, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

751. Utilization of 4-amino, 5-imidazole carboxamide for purine synthesis by yeast. WILLIAM J. WILLIAMS (introduced by JOHN M. BUCHANAN). *Dept. of Physiological Chemistry, Univ. of Pennsylvania School of Medicine, Philadelphia.*

752. Mechanism of hypoxanthine synthesis from glycine, formate, and 4-amino, 5-imidazolecarboxamide. MARTIN P. SCHULMAN* AND JOHN M. BUCHANAN. *Dept. of Physiological Chemistry, Univ. of Pennsylvania, Philadelphia.*

753. Role of desoxyribose-1-phosphate in nucleic acid synthesis. Formation of thymidine. MORRIS FRIEDKIN AND DEWAYNE ROBERTS (introduced by F. EDMUND HUNTER, JR.). *Dept. of Pharmacology, Washington Univ., St. Louis, Mo.*

754. Products of desoxyribose nucleosides degradation by *Escherichia coli*. C. E. HOFFMANN AND L. A. MANSON (introduced by J. O. LAMPEN). *Western Reserve Univ. School of Medicine, Dept. of Microbiology, Cleveland, Ohio.*

755. Incorporation of orotic acid-2-C^{14} into pyrimidines of nucleic acid *in vitro*. LAWRENCE L. WEED* AND D. WRIGHT WILSON. *Dept. of*

Physiological Chemistry, Univ. of Pennsylvania School of Medicine, Philadelphia.

756. Bacterial oxidation of pyrimidines. T. P. WANG* AND J. O. LAMPEN. *Dept. of Microbiology, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

757. Evidence for catabolism of uric acid in normal humans. JAMES BUZARD, CHARLES BISHOP AND JOHN H. TALBOTT (introduced by EDWARD M. BRIDGE). *Depts. of Medicine and Biochemistry, Univ. of Buffalo Med. School, and Buffalo General Hosp., Buffalo, N. Y.*

Vitamin B_{12} Chemistry; Citrovorum Factor

WEDNESDAY, 9:00 A.M.—EXHIBIT HALL ROOM B

Chairman: Thomas H. Jukes

758. Microbiological formation of vitamin B_{12} in fishery waste materials. H. L. A. TARR. *Pacific Fisheries Exptl. Station, Vancouver, B. C., Canada.*

759. A biologically active product of vitamin B_{12}. ERNEST BEERSTECHER, JR. *Dept. of Biochemistry, School of Dentistry, Univ. of Texas, Houston.*

760. Vitamin B_{12} activity of 5,6-dimethyl-benzimidazole, 1,2-diamino-4,5-dimethylbenzene and riboflavin for the rat. J. M. COOPERMAN AND B. TABENKIN (introduced by S. H. RUBIN). *Depts. of Nutrition and Microbiology, Hoffmann-LaRoche, Inc., Nutley, N. J.*

761. Oral administration of vitamin B_{12} containing cobalt^{60} to rats. C. A. LANG,* B. F. CHOW, C. ROSENBLUM,* R. H. SILBER, D. T. WOODBURY* AND R. YAMAMOTO.* *Dept. of Biochemistry, Johns Hopkins Univ. School of Hygiene and Public Health, Baltimore, Md.*

762. Excretion of vitamin B_{12} by human subjects. DOROTHY R. JUTTON* AND HELEN T. PARSONS. *Dept. of Home Economics, Univ. of Wisconsin, Madison.*

763. Enzymatic release of citrovorum factor. C. H. HILL AND M. L. SCOTT (introduced by L. C. NORRIS). *Dept. of Poultry Husbandry, Cornell Univ., Ithaca, N. Y.*

764. Comparative biological activity of citrovorum factor and pteroylglutamic acid. HARRY P. BROQUIST,* E. L. R. STOKSTAD AND THOMAS H. JUKES. *Lederle Labs. Div., American Cyanamid Co., Pearl River, N. Y.*

765. In vitro citrovorum factor and aminopterin on metabolism of glycine by chick liver homogenates. BARBARA KELLEY (introduced by JOHN R. TOTTER). *Univ. of Arkansas School of Medicine, Little Rock.*

766. Mechanism of growth-promoting effect of Aureomycin in chicks. WILLIAM L. WILLIAMS,* ROBERT R. TAYLOR,* E. L. R. STOKSTAD AND THOMAS H. JUKES. *Lederle Labs. Div., American Cyanamid Co., Pearl River, N. Y.*

767. Aureomycin and citrovorum factor in sulfa and aminopterin-induced folic acid deficiencies. HARRY A. WAISMAN, J. CRAVIOTO,* M. GREEN,* A. REMENCHIK* AND J. B. RICHMOND.* *Dept. of Pediatrics, Univ. of Illinois, Chicago.*

Amino Acid Metabolism I

WEDNESDAY, 9:00 A.M.—EXHIBIT HALL ROOM C

Chairman: Hans T. Clarke

768. Glutathione synthesis from glutamyl cysteine and glycine. JOHN E. SNOKE AND FRANK ROTHMAN (introduced by KONRAD BLOCH). *Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

769. Interaction of arginine and glutathione in beef kidney extracts. JIN H. KINOSHITA* AND ERIC G. BALL. *Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

770. Transamination of tyrosine by rat liver acetone powder. BERT N. LADU, JR. AND MARVIN FINK (introduced by BERNARD B. BRODIE). *New York Univ. Research Service, Goldwater Memorial Hosp., New York City, and Natl. Heart Inst., Natl. Insts. of Health, Bethesda, Md.*

771. Transamination as a step in tyrosine metabolism. BERNARD SCHEPARTZ (introduced by JAMES H. JONES). *Dept. of Biochemistry, Jefferson Med. College, Philadelphia, Pa.*

772. Enzymatic formation of tyrosine from phenylalanine. S. UDENFRIEND, J. COOPER* AND C. T. CLARK.* *Section on Chemical Pharmacology, Natl. Heart Inst., Natl. Insts. of Health, Bethesda, Md.*

773. Enzymatic mechanism of biosynthesis of citrulline. S. GRISOLIA* AND P. P. COHEN. *Lab. of Physiological Chemistry, Univ. of Wisconsin, Madison.*

774. Tryptophan metabolism in vitro. MERLE MASON* AND CLARENCE P. BERG. *Dept. of Biochemistry, State Univ. of Iowa College of Medicine, Iowa City.*

775. Quinolinic acid excretion and metabolism in man. HERBERT P. SARETT. *Tulane Univ. School of Medicine, Nutrition Research Lab., New Orleans, La.*

776. Isoleucine and its keto analogues. ALTON MEISTER. *Natl. Cancer Inst., Natl. Insts. of Health, Bethesda, Md.*

777. Formation of acetate from glycine. ARTHUR WEISSBACH* AND DAVID B. SPRINSON. *Dept. of Biochemistry, Columbia Univ., New York City.*

778. Acetylation of sulfur amino acids by liver and kidney slices. HELMUT R. GUTMANN* AND

JOHN L. WOOD. *Div. of Chemistry, Univ. of Tennessee School of Biological Sciences, Memphis.*

Detoxication

WEDNESDAY, 9:00 A.M.—EXHIBIT HALL ROOM D

Chairman: Howard B. Lewis

779. Application of infrared spectroscopy to study of mercapturic acids. HAROLD D. WEST, NELSON FUSON,* MARIE-LOUISE JOSIEN,* ROBERT L. POWELL* AND LORETHA A. BLACK.* *Dept. of Biochemistry, Meharry Med. College and Infrared Spectroscopy Lab., Fisk Univ., Nashville, Tenn.*

780. In vitro conjugation of phenol by rat liver. R. H. DEMEIO (introduced by W. H. PEARLMAN). *Dept. of Biochemistry, Jefferson Med. College, Philadelphia, Pa.*

781. Enzymatic conjugation of *m*-aminophenol. SHELDON BERNSTEIN AND R. W. MCGILVERY (introduced by PHILIP P. COHEN). *Dept. of Physiological Chemistry, Univ. of Wisconsin, Madison.*

782. Synthesis of hippuric acid. N. SARKAR,* M. FULD* AND D. E. GREEN. *Inst. for Enzyme Research, Univ. of Wisconsin, Madison.*

783. Maximum rate of acetylation of para-aminobenzoic acid (= 'Lm-acetyl-PABA') by liver of the rabbit. MORTON F. MASON, GUS GASTEN* AND ALLAN LINDSAY.* *Parkland Hosp. and Dept. of Internal Medicine, Southwestern Med. School of Univ. of Texas, Dallas.*

784. Conjugation of benzoic and phenylacetic acids with glycine and glucuronic acid during induced growth. O. H. GAEBLER, W. T. BEHER* AND E. M. CRIGGER.* *Edsel B. Ford Inst. for Med. Research, Henry Ford Hosp., Detroit, Mich.*

785. Response of serum glycine and alanine in rheumatoid arthritis after sodium benzoate. JOSEPH M. LOONEY, HENRY M. LEMON* AND WILLIAM H. CHASEN.* *Boston Regional Lab. of Veterans Administration and Boston Univ. School of Medicine, Boston, Mass.*

786. Metabolism of methylxanthines. HERBERT WEINFELD (introduced by A. A. CHRISTMAN). *Dept. of Biological Chemistry, Univ. of Michigan Med. School, Ann Arbor.*

787. Chemistry of Urochrome. THOMAS B. COOLIDGE. *Dept. of Biochemistry and Zoller Dental Clinic, Univ. of Chicago, Chicago, Ill.*

788. Antagonism of anethole and adrenal extract on glycogen formation in adrenalectomized rats. LUCILLE COTÉ AND J. J. OLESON. *Lederle Labs. Div., American Cyanamid Co., Pearl River, N. Y.*

Wednesday Afternoon, May 2, 1:15 p.m.

Symposium: Cytochemistry

WEDNESDAY, 1:15 P.M.—BALLROOM

Chairman: E. L. TATUM

789. Histochemical localization of cell constituents. ARTHUR W. POLLISTER. *Columbia Univ., New York City.*

790. Separation and properties of cell components. GEORGE H. HOGEBOOM. *Natl. Cancer Inst., Bethesda, Md.*

791. Intracellular enzyme distribution; interpretations and significance. VAN R. POTTER. *Univ. of Wisconsin, Madison.*

792. Structure and function of nucleic acids as cell constituents. ERWIN CHARGAFF. *Columbia Univ., New York City.*

Photosynthesis; Hemoglobin Metabolism

WEDNESDAY, 1:15 P.M.—CLUB ROOM C

Chairman: Martin D. Kamen

793. Light production by green plants. BERNARD STREHLER AND WILLIAM ARNOLD (introduced by WALDO E. COHN). *Biology Div., Oak Ridge Natl. Lab., Oak Ridge, Tenn.*

794. Mechanism of oxidations catalyzed by chloroplasts. ALAN H. MEHLER AND ALLAN H. BROWN (introduced by H. GAFFRON). *Inst. of Radiobiology and Biophysics, Univ. of Chicago, Chicago, Ill., and Dept. of Botany, Univ. of Minnesota, Minneapolis.*

795. The one-quantum mechanism and energy cycle in photosynthesis. DEAN BURK AND OTTO WARBURG.* *Kaiser-Wilhelm-Institut für Zellphysiologie, Berlin-Dahlem.*

796. Photochemical reduction of pyridine nucleotides. WOLF VISHNIAC (introduced by S. OCHOA). *Dept. of Pharmacology, New York Univ. College of Medicine, New York City.*

797. Influence of triphosphopyridine nucleotide upon evolution of oxygen and fixation of carbon dioxide by illuminated chloroplasts. L. J. TOLMACH* AND H. GAFFRON. *Dept. of Chemistry and Inst. of Radiobiology and Biophysics, Univ. of Chicago, Chicago, Ill.*

798. Simultaneous metabolism of acetate and carbon dioxide by resting cell suspensions of *Rhodospirillum rubrum*. J. GLOVER* (on leave from *Univ. of Liverpool*) AND M. D. KAMEN. *Washington Univ. Med. School, St. Louis, Mo.*

799. Hemin and globin synthesis in beryllium-induced anemia studied with alpha-C^{14}-ace-

tate. H. E. STOKINGER, K. I. ALTMAN AND K. SALOMON (introduced by ALEXANDER L. DOUNCE). *Atomic Energy Project, Univ. of Rochester, Rochester, N. Y.*

800. Effect of x-irradiation on iron of serum and tissues of rats. STEPHAN LUDEWIG AND ALFRED CHANUTIN. *Biochemical Lab., Univ. of Virginia Med. School, Charlottesville.*

801. Degradation of hemoglobin by tissue extracts and ascorbic acid. R. L. GARNER, GORDON C. MILLS* AND A. A. CHRISTMAN. *Dept. of Biological Chemistry, School of Medicine, Univ. of Michigan, Ann Arbor.*

802. Conversion of protoporphyrin to bile pigment. IRVING M. LONDON, MARTHA YAMASAKI AND GLORIA SABELLE (introduced by D. RITTENBERG). *Dept. of Medicine, Columbia Univ. College of Physicians and Surgeons, New York City.*

803. Crystallization and properties of 'direct' and 'indirect' bilirubin from human serum. VICTOR A. NAJJAR. *Dept. of Pediatrics, Johns Hopkins Univ., Baltimore, Md.*

Biochemistry Society Business Meeting

WEDNESDAY, 4:00 P.M.—BALLROOM

Thursday Morning, May 3, 9:00 a.m.

Protein Synthesis

THURSDAY, 9:00 A.M.—BALLROOM

Chairman: J. Murray Luck

804. Incorporation of ethionine into rat proteins. MELVIN LEVINE (introduced by HAROLD TARVER). *Div. of Biochemistry, Univ. of California, Berkeley.*

805. Turnover of proteins of cell fractions of adult rat liver in vivo. ELIZABETH B. KELLER (introduced by PAUL C. ZAMECNIK). *Med. Labs. of C. P. Huntington Memorial Hosp. of Harvard Univ., Massachusetts General Hosp., Boston.*

806. In vitro incorporation of 1-C^{14}-DL-alanine into proteins of rat-liver granular fractions. PHILIP SIEKEVITZ* AND PAUL C. ZAMECNIK. *Med. Labs. of C. P. Huntington Memorial Hosp. of Harvard Univ., Massachusetts General Hosp., Boston.*

807. Effect of adrenal cortical hormones and insulin on alanine metabolism. F. MAROTT SINEX (introduced by A. BAIRD HASTINGS). *Dept. of Biological Chemistry, Harvard Med. School, Boston, Mass.*

808. Metabolism of plasma protein. HAROLD TARVER AND ISMAIL A. ABDOU.* *Div. of Biochemistry, Univ. of California, Berkeley.*

809. In vitro studies on mechanisms involved in protein turnover. MELVIN V. SIMPSON (introduced by GERHARD SCHMIDT). *Dept. of Physiology, Tufts College Med. School, Boston, Mass.*

810. Tracer studies in protein synthesis: Antibody formation by spleen slices. ALBERT KESTON AND JEAN-CLAUDE DREYFUS.* *Chemistry Dept., New York Univ. College of Medicine, New York City.*

811. Mechanism of antibody synthesis. HOWARD GREEN* AND H. S. ANKER. *Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

812. Mechanism of plasma protein synthesis by the liver as studied with the aid of lysine ϵ-C^{14}. LEON L. MILLER AND CHAUNCEY G. BLY.* *Dept. of Radiation Biology, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.*

813. Evidence for stepwise biosynthesis of ovalbumin. CHRISTIAN B. ANFINSEN AND DANIEL STEINBERG.* *Dept. of Biochemistry, Harvard Med. School, Boston, Mass., and Natl. Heart Inst., Bethesda, Md.*

814. Quantitative studies of protein and nucleic acid synthesis in tissue culture. HORACE W. GERARDE,* MARION JONES,* SHIH C. WANG,* DONALD F. WILSON* AND THEODORE WINNICK. *Univ. of Iowa College of Medicine, Iowa City.*

Role of Vitamin B_{12}

THURSDAY, 9:00 A.M.—SOUTH HALL ROOM C

Chairman: Charles H. Best

815. Biochemical changes induced by vitamin B_{12}. LYNN D. ABBOTT, JR. *Dept. of Biochemistry, Med. College of Virginia, Richmond.*

816. Some biochemical changes induced by administration of vitamin B_{12} to deficient animals. CHIUN T. LING* AND BACON F. CHOW. *Dept. of Biochemistry, Johns Hopkins Univ. School of Hygiene and Public Health, Baltimore, Md.*

817. Lipotropic properties of vitamin B_{12}. C. C. LUCAS, JESSIE H. RIDOUT,* JEAN M. PATTERSON* AND C. H. BEST. *Banting and Best Dept. of Med. Research, Univ. of Toronto, Toronto, Ontario, Canada.*

818. Vitamin B_{12} in methionine formation. JACOB DUBNOFF. *California Inst. of Technology, Pasadena.*

819. Pathway of formate in the in vitro synthesis of methionine methyl group. P. BERG (introduced by W. SAKAMI). *Dept. of Biochemistry, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

820. Action of vitamin B_{12} and folic acid on labile methyl synthesis in the rat. WALTER G. VERLY,* JOHN E. WILSON,* JOHN M. KINNEY* AND JULIAN R. RACHELE. *Dept. of Biochemistry, Cornell Univ. Med. College, New York City.*

821. Role of folacine and vitamin B_{12} in synthesis and utilization of choline by the rat as studied with C-14-glycine, formate and methionine. JAKOB A. STEKOL, KATHRYN W. WEISS* AND SIDNEY WEISS.* *Lankenau Hosp. Research Inst. and Inst. for Cancer Research, Philadelphia, Pa.*

822. Effect of vitamin B_{12}, *dl*-methionine and vitamin E on growth promoting value of *Torula* yeast protein. JOSÉ A. GOYCO (introduced by CONRADO F. ASENJO). *Dept. of Biochemistry and Nutrition, School of Medicine, Univ. of Puerto Rico, San Juan.*

823. Vitamin B_{12} and cyanide metabolism. G. E. BOXER, J. C. RICKARDS,* C. ROSENBLUM* AND D. T. WOODBURY.* *Research Labs., Merck and Company, Rahway, N. J.*

Enzymes II

THURSDAY, 9:00 A.M.—CLUB ROOM B

Chairman: Emil L. Smith

824. Isolation of pantothenate-synthesizing enzyme from *Escherichia coli*. WERNER K. MAAS (introduced by BERNARD D. DAVIS). *U. S. Public Health Service Tuberculosis Research Lab., Cornell Univ. Med. College, New York City.* (Immunol.)

825. Glutamotransferase activity in mammalian tissue extracts. HEINRICH WAELSCH. *New York State Psychiatric Inst. and Dept. of Biochemistry, Columbia Univ., New York City.*

826. Enzymic degradation of guanidines by *Mycobacterium smegmatis*. E. A. ZELLER, L. S. VAN ORDEN AND W. F. KIRCHHEIMER (introduced by L. S. FOSDICK). *Depts. of Chemistry and Bacteriology, Northwestern Univ. Med. School, Chicago, Ill.*

827. Adenylic acid deaminase activity of myosin. JOHN GERGELY (introduced by L. J. TEPLY). *Natl. Insts. of Health, Bethesda, Md.*

828. Direct enzymatic deamination of adenine derivatives by takadiastase deaminase. NATHAN O. KAPLAN, SIDNEY P. COLOWICK AND FRANCIS E. STOLZENBACH.* *McCollum-Pratt Inst., Johns Hopkins Univ., Baltimore, Md.*

829. Glutamic acid decarboxylase in brain. EUGENE ROBERTS AND SAM FRANKEL.* *Wernse Lab. of Cancer Research, Washington Univ. School of Medicine, St. Louis, Mo.*

830. Peptidase activity of surviving rat diaphragm. THEODORE B. SCHWARTZ,* FRANK L. ENGEL AND CATHERINE C. TOWBIN.* *Dept. of Medicine, Duke Univ., Durham, N. C.* (Physiol.)

831. Proteolytic activity of pituitary extracts. ELIJAH ADAMS (introduced by EMIL L. SMITH). *Lab. for Study of Hereditary and Metabolic Disorders, Univ. of Utah, Salt Lake City.*

832. Reaction of α-chymotrypsin with analogues of diisopropyl fluorophosphate (DFP). EUGENE F. JANSEN, A. LAURENCE CURL* AND A. K. BALLS. *Enzyme Research Div., Bureau of Agricultural and Industrial Chemistry, U. S. Dept. of Agriculture, Albany, Calif.*

833. *Clostridium histolyticum* collagenase. ALFRED A. TYTELL, JAMES D. OGLE AND KATHLEEN HEWSON (introduced by MILAN A. LOGAN). *Dept. of Biological Chemistry, Univ. of Cincinnati College of Medicine, Cincinnati, Ohio.*

834. Proteolytic, hypotensive and thromboplastic properties of hypochlorite treated trypsin. DONALD E. BOWMAN. *Dept. of Biochemistry, Indiana Univ. School of Medicine, Indianapolis.*

835. Purification of renin and production of antirenin in man. ERWIN HAAS, HILDEGARD LAMFROM* AND HARRY GOLDBLATT.* *Inst. for Med. Research, Cedars of Lebanon Hosp., Los Angeles, Calif.*

Thursday Afternoon, May 3, 1:15 p.m.

Oxidative Enzymes II

THURSDAY, 1:15 P.M.—CLUB ROOM C

Chairman: Severo Ochoa

836. Complex nature of ribose-5-phosphate dehydrogenating system. HENRY Z. SABLE (introduced by C. F. CORI). *Dept. of Biological Chemistry, Washington Univ. School of Medicine, St. Louis, Mo., and Dept. of Biochemistry and Nutrition, Tufts College Med. School, Boston, Mass.*

837. Oxidation of acetaldehyde by glyceraldehyde-3-phosphate dehydrogenase of rabbit muscle. JANE HARTING (introduced by SIDNEY F. VELICK). *Dept. of Biochemistry, Washington Univ. School of Medicine, St. Louis, Mo.*

838. Activity of glyceraldehyde-3-phosphate dehydrogenase and its binding of coenzyme and substrate. SIDNEY F. VELICK. *Dept of Biochemistry, Washington Univ. School of Medicine, St Louis, Mo.*

839. Properties of pyruvic oxidase. RICHARD S. SCHWEET, V. JAGANNATHAN AND BERNARD KATCHMAN (introduced by DAVID E. GREEN). *Inst. for Enzyme Research, Univ. of Wisconsin, Madison.*

840. Isolation of rat liver lactic dehydrogenase. CARL S. VESTLING, DAVID M. GIBSON,* EDWIN O. DAVISSON* AND B. ROGER RAY.* *Noyes Lab. of Chemistry, Univ. of Illinois, Urbana.*

841. Further purification and properties of 'malic' enzyme from *L. arabinosus*. SEYMOUR KAUFMAN (introduced by S. RATNER). *Dept. of Pharmacology, New York Univ. College of Medicine, New York City.*

842. Crystallization of L(+) glutamic acid dehydrogenase from beef liver. JAMES ALLEN OLSON (introduced by CHRISTIAN B. ANFINSEN). *Dept. of Biochemistry, Harvard Med. School, and Natl. Heart Inst., Natl. Insts. of Health, Bethesda, Md.*

843. Reduction of oxidized glutathione by plant enzymes. ERIC E. CONN* AND BIRGIT VENNESLAND. *Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

844. Action of thyroxine in tissue oxidations. GLADYS FELDOTT* AND HENRY A. LARDY. *Dept. of Biochemistry and Inst. for Enzyme Research, Univ. of Wisconsin, Madison.*

845. Effect of selenium on activity of certain enzymes in homogenates of rat tissues. HARLAN L. KLUG,* DONALD F. PETERSEN* AND ALVIN L. MOXON. *Chemistry Dept., South Dakota Agricultural Exper. Station, Brookings.*

Carbohydrate Metabolism II

THURSDAY, 1:15 P.M.—BALLROOM

Chairman: Henry A. Lardy

846. A new procedure for determination of respiration of tissue homogenates. JOHN ESBEN KIRK AND PER FROM HANSEN.* *Div. of Gerontology, Washington Univ. School of Medicine, St. Louis, Mo.*

847. Respiratory studies on slices of adrenal glands from rats, hamsters and guinea pigs. RALPH W. MCKEE AND JEROME K. WALKER.* *Dept. of Biological Chemistry, Harvard Med. School, and Cancer Research Inst., New England Deaconess Hosp., Boston, Mass.*

848. Phosphoglyceric acid utilization by water extracts of cardiac muscle. O. NEAL MILLER (introduced by WENDELL H. GRIFFITH). *Dept. of Biochemistry and Nutrition, Univ. of Texas Med. Branch, Galveston.*

849. Synthesis of glucose-6-phosphate and 6-phosphogluconate. J. E. SEEGMILLER (introduced by B. L. HORECKER). *Natl. Insts. of Health, Bethesda, Md.*

850. Pentose production and utilization by enzyme systems of *Escherichia coli*. SEYMOUR S. COHEN, DWIGHT B. MCNAIR SCOTT* AND MARY LANNING.* *Children's Hosp. of Philadelphia, Dept. of Pediatrics, and Dept. of Physiological Chemistry, School of Medicine, Univ. of Pennsylvania, Philadelphia.*

851. Ketopentose-phosphate formation in enzymatic degradation of phosphogluconate. B. L. HORECKER AND P. Z. SMYRNIOTIS.* *Natl. Insts. of Health, Bethesda, Md.*

852. Glycolaldehyde and glycolaldehydephosphate as reaction components in enzymatic pentose formation. J. MARMUR* AND F. SCHLENK. *Dept. of Bacteriology, Iowa State College, Ames.*

853. A new mechanism of ethanol formation in heterolactic fermentation. MARTIN GIBBS AND R. D. DEMOSS (introduced by I. C. GUNSALUS). *Brookhaven Natl. Lab., Upton, L. I., N. Y., and Indiana Univ., Bloomington.*

854. Metabolism of formaldehyde by rat liver homogenates. FRIXOS CHARALAMPOUS AND GERALD C. MUELLER (introduced by JAMES A. MILLER). *McArdle Memorial Lab., Med. School, Univ. of Wisconsin, Madison.*

855. Effect of glyoxal on tissue metabolism. ERNEST KUN. *Dept. of Medicine, Univ. of Chicago, Chicago, Ill.* (Pharmacol.)

Amino Acid Metabolism II

THURSDAY, 1:15 P.M.—CLUB ROOM B

Chairman: William C. Rose

856. In vivo appearance of C-14 of DL-methionine -2-C-14 in fumarate, succinate, lactate and aconitate. LAWRENCE M. MARSHALL AND FELIX FRIEDBERG (introduced by VERNON A. WILKERSON). *Dept. of Biochemistry, Howard Univ. College of Medicine, Washington, D. C.*

857. Synthesis of phenylalanine and tyrosine in yeast. C. GILVARG* AND K. BLOCH. *Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

858. Biosynthesis of histidine. MINOR J. COON AND LOUIS LEVY (introduced by D. W. WILSON). *Dept. of Physiological Chemistry, Univ. of Pennsylvania School of Medicine, Philadelphia.*

859. Path of biosynthesis of proline. HENRY J. VOGEL* AND BERNARD D. DAVIS. *U. S. Public Health Service Tuberculosis Research Lab., Cornell Univ. Med. College, New York City.* (Immunol.)

860. Precursors of beta carbon of serine and of methionine methyl group. CHOZO MITOMA* AND DAVID M. GREENBERG. *Biochemistry Div., Univ. of California, School of Medicine, Berkeley.*

861. Influence of adrenalectomy and adrenal cortical hormones in vivo on metabolism of glycine in liver. A. D. BARTON (introduced by VAN R. POTTER). *McArdle Memorial Lab., Univ. of Wisconsin Med. School, Madison.*

862. Concentrative uptake of glycine and alanine by erythrocytes. THOMAS R. RIGGS,* HALVOR N. CHRISTENSEN AND NANCY E. RAY.* *Dept. of Biochemistry and Nutrition, Tufts College Med. School, Boston, Mass.*

863. Free amino acids of plasma following complete removal of the liver. EUNICE V. FLOCK, FRANK C. MANN* AND JESSE L. BOLLMAN.* *Div. of Exptl. Medicine, Mayo Fndn., Rochester, Minn.*

864. Plasma glutamic acid. J. R. BEATON* AND E. W. MCHENRY. *Univ. of Toronto, Dept. of Public Health Nutrition, Toronto, Ontario, Canada.*

865. Free amino acids and other ninhydrin positive substances in rapidly growing tissues of the rabbit. GEORGE ROUSER AND GARSON H. TISHKOFF (introduced by ELMER STOTZ). *Depts. of Biochemistry and Pharmacology,*

Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.

866. Colorimetric determination of gentisic acid. J. LOWENTHAL (introduced by L. B. JAQUES). *Dept. of Physiology, Univ. of Saskatchewan, Saskatoon, Canada.* (Physiol.)

Nutrition—General

THURSDAY, 1:15 P.M.—CLUB ROOM A

Chairman: L. A. Maynard

867. Biological vitamin C activity of *Malpighia punicifolia* L. pseudo cherry. CONRADO F. ASENJO. *Dept. of Biochemistry and Nutrition, School of Medicine, Univ. of Puerto Rico, San Juan.*

868. Metabolism of protein nitrogen during healing of experimental wounds. MARTIN B. WILLIAMSON, THOMAS MCCARTHY AND HERBERT FROMM (introduced by W. R. TWEEDY). *Dept. of Biochemistry, Graduate School and Stritch School of Medicine, Loyola Univ., Chicago, Ill.*

869. Protein sparing action of various carbohydrates. ANTHONY A. ALBANESE, REGINALD A. HIGGONS,* LOUKIA STEPHANSON* AND BETTY VESTAL.* *Nutritional Research Lab., St. Luke's Hosp., New York City.*

870. Effect of nitrogen fertilization upon biological value and amino acid content of corn. H. E. SAUBERLICH,* WAN-YUIN CHANG* AND W. D. SALMON. *Dept. of Animal Husbandry and Nutrition, Alabama Polytechnic Inst., Auburn.*

871. Role of ammonia in anaerobic nitrogen fixation. I. ZELITCH,* R. H. BURRIS AND P. W. WILSON. *Depts. of Biochemistry and Agricultural Bacteriology, Univ. of Wisconsin, Madison.*

872. Influence of ammonia and urea upon *L. acidophilus* 4646. SHOLOM PEARLMAN AND THOMAS J. HILL (introduced by J. MUNTZ). *Western Reserve Univ., Inst. of Pathology and School of Dentistry, Cleveland, Ohio.*

873. Availability of L- and D-phenylalanines for growth. MARVIN D. ARMSTRONG AND JOY D. LEWIS (introduced by F. BINKLEY). *Univ. of Utah School of Medicine, Salt Lake City.*

874. Nutritional studies with hexahydrophenylalanine. BERNARD J. BALTES (introduced by EDWARD A. DOISY). *Dept. of Biochemistry, St. Louis Univ. School of Medicine, St. Louis, Mo.*

875. Influence of folic acid on metabolism of glycine, serine and threonine by *Streptococcus faecalis*. JOHN R. TOTTER AND DOROTHY S. GAINES.* *Univ. of Arkansas School of Medicine, Little Rock.*

876. Nature of glutamic acid excreted in folic acid deficiency. MILTON SILVERMAN, HOWARD BAKERMAN* AND FLOYD S. DAFT. *Natl. Insts. of Health, Bethesda, Md.*

877. Effect of choline deficiency on serum proteins of the young rat. MARIE A. FISCHER (introduced by W. S. MCELLROY). *Dept. of Physiological Chemistry, Univ. of Pittsburgh School of Medicine, Pittsburgh, Pa.*

PAPERS READ BY TITLE

878. Phosphoribomutase and enzymatic preparation of ribose-1-phosphate. ADOLPH ABRAMS AND HANS KLENOW (introduced by H. M. KALCKAR). *Inst. for Cytophysiology, Univ. of Copenhagen, Copenhagen, Denmark.*

879. Isolation of conjugated and free bile acids by extraction procedures. E. H. AHRENS, JR.* AND LYMAN C. CRAIG. *Rockefeller Inst. for Med. Research, New York City.*

880. Biological value of an enzymatic digest of bovine plasma. ANTHONY A. ALBANESE, REGINALD A. HIGGONS,* GEORGE E. MACDONALD,* WILLIAM C. FELCH,* BETTY VESTAL* AND LOUKIA STEPHENSON.* *Nutritional Research Lab. and Dept. of Medicine, St. Luke's Hosp., New York City.*

881. Change in adenine nucleotides during growth in plant tissues. HARRY G. ALBAUM, ALTA HIRSHFELD,* THEODORE GAYLE* AND FRANCIS BONNER.* *Biology Research Lab., Brooklyn College, Brooklyn, N. Y.*

882. Possible existence of ribose non-esterified at positions 2 and 3 in ribonucleic acids and certain fractions derived by action of ribonuclease. FRANK WORTHINGTON ALLEN. *Dept. of Biochemistry, Univ. of California Med. School, Berkeley.*

883. Biochemical studies on pancreatic function. Serum lipase activity. C. ALPER AND P. P. POLAKOFF, JR. (introduced by M. J. BOYD). *Div. of Biological Chemistry, Hahnemann Med. College, Philadelphia, Pa.*

884. Variations in alkali resistant hemoglobin in normal and abnormal bloods. MARIE A. ANDERSCH AND ANNA MAE ROSENDALE.* *Dept. of Medicine, Subdepartment of Clin. Pathology, Univ. of Maryland School of Medicine, Baltimore.*

885. Absorption and metabolism of tyrosine disulfonate. JAMES C. ANDREWS AND JOHN P. FEASTER.* *Dept. of Biological Chemistry, Univ. of North Carolina, Chapel Hill.*

886. Distribution of rhodanese in blood. REGINALD M. ARCHIBALD, RUTH MEYER* AND JAMES GREENOUGH.* *Hosp. of Rockefeller Inst. for Med. Research, New York City.*

887. Phosphate uptake by pea meal extracts. BERNARD AXELROD, ROBERT S. BANDURSKI*

AND PAUL SALTMAN.* *Enzyme Research Div., Bureau of Agricultural and Industrial Chemistry, U. S. Dept. of Agriculture, Albany, and Kerckhoff Labs. of Biology, California Inst. of Technology, Pasadena.*

888. Excretion of bromsulphthalein and sodium cholate after intravenous injection. HAROLD W. BAKER,* CARL E. ANDERSON AND ROBERT H. MCCLUER.* *Dept. of Biochemistry, Vanderbilt Univ., Nashville, Tenn., and Univ. of North Carolina, Chapel Hill.*

889. Distribution of radioactive thallium in chicken embryos and in rats. RALPH K. BARCLAY, WENDELL C. PEACOCK AND DAVID A. KARNOFSKY (introduced by AARON BENDICH). *Divs. of Exptl. Chemotherapy and Physics, Sloan-Kettering Inst., New York City.*

890. Effect of manganese and calcium on proteolytic activity of pancreas homogenates. ORVILLE G. BENTLEY (introduced by R. M. BETHKE). *Ohio Agricultural Exper. Station, Wooster.*

891. Nature of enzymes responsible for hydrolysis of glutathione. FRANCIS BINKLEY AND C. K. OLSON.* *Univ. of Utah College of Medicine, Salt Lake City.*

892. A heat stable co-factor for glutathione synthesis. KONRAD BLOCH. *Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

893. Comparison of seven methods for determination of total protein in serum and plasma. RUSSEL O. BOWMAN AND D. E. HOUSHOLDER (introduced by EDWARD MUNTWYLER). *Dept. of Biochemistry, Baylor Univ. College of Medicine, Houston, Tex.*

894. Minerals in normal and atherosclerotic aortas. R. C. BUCK* AND R. J. ROSSITER. *Dept. of Biochemistry, Univ. of Western Ontario, London, Canada.*

895. Separation of lactic, succinic and malonic acids by ion-exchange chromatography. HARRIS BUSCH,* ROBERT B. HURLBERT* AND VAN R. POTTER. *McArdle Memorial Lab., Med. School, Univ. of Wisconsin, Madison.*

896. Effect of antabuse on evipal-induced sleeping time in rats. ELIZABETH CARMICHAEL, W. DONALD GRAHAM AND M. G. ALLMARK (introduced by L. I. PUGSLEY). *Food and Drug Labs., Dept. of National Health and Welfare, Ottawa, Ontario, Canada.*

897. Crystalline human carbonylhemoglobin as a standard for several colorimetric methods for hemoglobin determination. MAX E. CHILCOTE AND ARTHUR E. O'DEA (introduced by WILSON D. LANGLEY). *Dept. of Biochemistry, Univ. of Buffalo School of Medicine, Buffalo, N. Y.*

898. Response of rats to diets high in methionine. HAROLD P. COHEN* AND CLARENCE P. BERG. *Dept. of Biochemistry, State Univ. of Iowa College of Medicine, Iowa City.*

899. A comparison of hydrolytic procedures for conjugated urinary corticoids. SAUL L. COHEN. *Dept. of Physiological Chemistry, Univ. of Minnesota Med. School, Minneapolis.*

900. Inhibition of anaerobic and aerobic phosphorylation of glucose in nucleated red cells by intracellular ions. ZACHARIAS DISCHE AND GILBERT ASHWELL.* *Dept. of Biochemistry, Columbia Univ. College of Physicians and Surgeons, New York City.*

901. Examination of mixtures of amino acid derivatives and amino acids. CHARLES H. EADES, JR. (introduced by T. P. NASH, JR.) *Div. of Chemistry, School of Biological Sciences, Univ. of Tennessee, Memphis.*

902. Effect of negative ionization on cellular proliferation in connection with calcium retention. WALTER H. EDDY AND BORIS SOKOLOFF.* *Southern Bio-Research Lab., Florida Southern College, Lakeland.*

903. Adrenal cortical hormones; dehydration of 6β,21-diacetoxyallopregnane-5-ol-3,20-dione. MAXIMILIAN EHRENSTEIN AND PABLO TH. HERZIG.* *Dept. of Research Medicine and George S. Cox Med. Research Institute, Univ. of Pennsylvania, Philadelphia.*

904. Serum sodium and potassium values in four hundred normal human subjects determined by Beckman flame photometer. HOWARD C. ELLIOTT, JR. AND HOWARD L. HOLLEY (introduced by EMMETT B. CARMICHAEL). *Depts. of Biochemistry and Medicine, Alabama Med. Center, Birmingham.*

905. A natural inhibitor of holophosphorylase. JEROME FREDRICK, IRWIN FEIGIN AND ABNER WOLF (introduced by EDGAR G. MILLER, JR.). *Veterans Administration Hosp., Bronx, and Depts. of Pathology and Neurology, Columbia Univ. and Neurological Inst., New York City.*

906. Aluminum oxide adsorption and corticosteroids. JACQUES GENEST (introduced by REGINALD M. ARCHIBALD). *Hosp. of Rockefeller Inst. for Med. Research, New York City.*

907. Chemical studies on ACTH protein and peptide mixture. J. IEUAN HARRIS* AND CHOH HAO LI. *Dept. of Biochemistry, Univ. of California, Berkeley.*

908. A germination inhibitor from apple and celery seeds. SELMA S. HICKS,* D. M. DOTY* AND F. W. QUACKENBUSH. *Dept. of Agricultural Chemistry, Purdue Univ., Lafayette, Ind.*

909. Determination of dehydroisoandrosterone. BENJAMIN N. HORWITT (introduced by HERBERT P. SARETT). *Tulane Univ., Dept. of Medicine, Alton Ochsner Med. Fndn., New Orleans, La.*

910. A modified Knoop test for histidine. ANDREW

HUNTER. *Dept. of Pediatrics, Univ. of Toronto and Hosp. for Sick Children, Toronto, Ontario, Canada.*

911. Seasonal variation in toxicity of demerol in young and adult rats. WALTER H. JOHNSON* AND EMMETT B. CARMICHAEL. *Biochemistry Dept., Alabama Med. Center, Birmingham.*

912. Estimation of organic compounds as isotopic derivatives using labelled organic compounds as indicators. ALBERT KESTON AND JOSEPH LOSPALLUTO.* *Chemistry Dept., New York Univ. College of Medicine, New York City.*

913. Variation in solubility of cholesterol from different sources at low temperature. ALFRED E. KOEHLER AND ELSIE HILL.* *Sansum Clinic Research Fndn. and Santa Barbara Cottage Hosp., Santa Barbara, Calif.*

914. In vivo dialysis as a means of influencing survival of x-irradiated dogs. PAUL S. LAVIK,* JACK R. LEONARDS, CHARLES R. HEISLER* AND G. WARREN BUCKALOO.* *Dept. of Biochemistry and Atomic Energy Med. Research Project, Western Reserve Univ., Cleveland, Ohio.*

915. Decomposition of methionine by hot sulfuric acid. THEODORE F. LAVINE AND NORMAN F. FLOYD.* *Lankenau Hosp. Research Inst., Philadelphia, Pa.*

916. Reaction of pyridoxal with thiophene. VICTOR E. LEVINE AND WARREN G. HANSEN.* *Dept. of Biological Chemistry and Nutrition, Creighton Univ. School of Medicine, Omaha, Nebr.*

917. Hydroxy amino acids in tissue filtrates. GEORGE T. LEWIS, LILLIAN HANKEY,* FOSTER ADAIR* AND MARTIN CUMMINGS.* *Dept. of Biochemistry, Emory Univ. School of Dentistry, Emory Univ., and Tuberculosis Section, Lawson V. A. Hosp. Chamblee, Ga.*

918. Paper chromatography of fatty acids. L. A. LIBERMAN,* ALEJANDRO ZAFFARONI,* AND ELMER STOTZ. *Dept. of Biochemistry, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.*

919. Enzymatic disappearance of formaldehyde in the presence of pyruvate. PEGGY MITCHELL* AND CAMILLO ARTOM. *Dept. of Biochemistry, Bowman Gray School of Medicine, Winston-Salem, N. C.*

920. Production of antibody to Welchii antitoxin that inhibits lecithinase activity of the corresponding toxin. VICTOR A. NAJJAR. *Dept. of Pediatrics, Johns Hopkins Univ., Baltimore, Md.*

921. Calculation of amount of sodium bicarbonate to be administered to patients in acidosis to bring to normal pH. SAMUEL NATELSON. *Dept. of Biochemistry, Rockford Memorial Hosp., Rockford, Ill.*

922. Paper chromatography of acetyl salicylic acid and its metabolites. W. D. PAUL,* M. M. AL-HASHIMI* AND J. I. ROUTH. *Depts. of Medicine and Biochemistry, State Univ. of Iowa College of Medicine, Iowa City.*

923. Serum bilirubin. BETTY KING PROFFIT* AND DEMPSIE B. MORRISON. *Dept. of Chemistry, School of Biological Sciences, Univ. of Tennessee, Memphis.*

924. Influence of adrenal cortex on aerobic metabolism of normal and malignant lymphoid tissue. SIDNEY ROBERTS AND ABRAHAM WHITE. *Univ. of California, Dept. of Physiological Chemistry, School of Medicine, Los Angeles.*

925. Deamination of amino acids by *Brucella*. W. G. ROESSLER, F. A. LEONARD AND L. H. GRAF (introduced by C. R. BREWER). *Camp Detrick, Frederick, Md.*

926. An intense reducing system of rabbit polymorphonuclear leucocyte. GEORGE ROUSER (introduced by ALEXANDER DOUNCE). *Dept. of Biochemistry, School of Medicine and Dentistry, Univ. of Rochester, Rochester, N. Y.*

927. Effects of radon radiation upon mouse tumors. M. SPIEGEL-ADOLF AND R. ROBBINS.* *Temple Univ. Med. School, Depts. of Colloid Chemistry and Radiology, Philadelphia, Pa.*

928. Possible metabolic role of KCN in the rat as studied with C-14-KCN. JAKOB A. STEKOL AND SIDNEY WEISS.* *Lankenau Hosp. Research Inst. and Inst. for Cancer Research, Philadelphia, Pa.*

929. Ornithine metabolism. MARJORIE R. STETTEN. *Public Health Research Inst. of City of New York, Inc., Div. of Nutrition and Physiology, New York City.*

930. Effect of zinc hydrochloric acid hydrolysis on formaldehydogenic steroids in human urine. BENJAMIN F. STIMMEL. *Rees-Stealy Clinic Research Fndn., San Diego, Calif.*

931. Transaminases in higher plants. P. K. STUMPF. *Div. of Plant Biochemistry, Univ. of California, Berkeley.*

932. Substrate specificity of pancreatic cholesterol esterase. LEON SWELL,* JOAN W. CASSIDY* AND C. R. TREADWELL. *Dept. of Biochemistry, George Washington Univ. School of Medicine, Washington, D. C.*

933. Anomaly in acetylcholine system in cerebral cortex in focal epilepsy and following methionine sulfoximine administration. D. B. TOWER* AND K. A. C. ELLIOTT. *Montreal Neurological Inst., Montreal, Quebec, Canada.*

934. Renal excretion of administered radiophosphorus following thyroparathyroidectomy and injection of parathyroid extract. W. R. TWEEDY AND E. M. ZORN.* *Radioisotope*

Unit, Veterans Administration Hosp., Hines, Ill.

935. An investigation of Bence-Jones proteins. BERNARD UDIN* AND FRANK W. PUTNAM. *Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

936. Oxidation of endogenous fatty acids of rat tissues in vitro. S. WEINHOUSE, M. E. VOLK* AND R. H. MILLINGTON.* *Lankenau Hosp. Research Inst. and Inst. for Cancer Research, Philadelphia, Pa.*

937. Infrared spectroscopic studies of phenanthrene metabolism. HAROLD D. WEST, MARIE-LOUISE JOSIEN,* NELSON FUSON* AND ANDREW JACKSON.* *Dept. of Biochemistry, Meharry Med. College, and Infrared Spectroscopy Lab., Fisk Univ., Nashville, Tenn.*

938. Effect of diet on intestinal xanthine oxidase. W. W. WESTERFELD. *Biochemistry Dept., Syracuse Med. College, Syracuse, N. Y.*

939. Effect of lanthanum upon *Streptococcus faecalis R.* M. WURM (introduced by KURT G. STERN). *Div. of Neoplastic Diseases, Montefiore Hosp., New York City.*

940. Potassium clearance in renal dysfunction. QUENTIN YOUNG,* ARTHUR BERNSTEIN,* LIONEL BERNSTEIN,* WILLIAM ROSE* AND WILLIAM S. HOFFMAN. *Hektoen Inst. for Med. Research, Cook County Hosp., and Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago.*

941. Influence of age on mouse liver phosphatases. ANITA ZORZOLI (introduced by E. S. HILL). *Dept. of Biochemistry, Washington Univ. Dental School, St. Louis, Mo.*

THE AMERICAN SOCIETY FOR PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS

Forty-first Annual Meeting

CLEVELAND, OHIO, APRIL 29–MAY 3, 1951

(An asterisk following an author's name indicates "by invitation")*

Monday Morning, April 30, 9:00 a.m.

Autonomic Agents

MONDAY, 9:00 A. M.—CLUB ROOM A

Chairman: E. M. K. Geiling

942. A comparative statistical study of pressor effects of epinephrine and arterenol. VIRGINIA L. SYDOW,* RAYMOND P. AHLQUIST, JAMES P. TAYLOR* AND J. BAYARD BRITTON.* *Dept. of Pharmacology, Med. College of Georgia, Augusta.*

943. Metabolism of pressor amines. VIRGIL D. WIEBELHAUS AND KATHERINE M. WILHOYTE (introduced by KARL H. BEYER). *Dept. of Pharmacology, Sharp & Dohme, Inc., Glenolden, Pa.*

944. A comparison of capillary effects of ergotamine and dihydrogenated ergot alkaloids. THOMAS J. HALEY AND MARGARET ANDEM.* *Atomic Energy Project, School of Medicine, Univ. of California at Los Angeles.*

945. Further studies on ergotamine-like actions of ergonovine. F. J. MACRI (introduced by T. KOPPANYI). *Dept. of Pharmacology, Georgetown Univ. School of Medicine, Washington, D. C.*

946. Occurrence of *nor*-epinephrine in toad venom. HENRY M. LEE* AND K. K. CHEN. *Lilly Research Labs., Indianapolis, Ind.*

947. Action of desoxyephedrine on vascular bed of the limb of the dog. M. JACK FRUMIN,* SHIH-HSUN NGAI* AND E. M. PAPPER. *Dept. of Anesthesiology (Surgery), Columbia Univ. College of Physicians and Surgeons, New York City.*

948. Pressor dose-effect curves for l-epinephrine, l-nor-epinephrine and a commercial epinephrine. ROBERT V. BROWN AND GALE C. BOXILL.* *Div. of Pharmacology, Univ. of Tennessee Med. Units, Memphis.*

949. 'Aramine': its enzymologic and sympathomimetic characteristics. KARL H. BEYER, HAROLD H. PECK,* CHARLES A. ROSS,* VIRGIL D. WIEBELHAUS* AND S. E. MCKINNEY.* *Dept. of Pharmacology, Sharp & Dohme, Inc., Glenolden, Pa.*

950. Delayed fall in blood pressure following administration of vasopressin to pregnant dogs. JOSEPH H. TRAPOLD* AND ROBERT A. WOODBURY. *Div. of Pharmacology, Univ. of Tennessee Med. Units, Memphis.*

951. Method for evaluating actions of drugs on bronchiolar resistance. WILLIAM M. ALEXANDER* AND BENEDICT E. ABREU. *Research Dept., Pitman-Moore Company, Indianapolis, Ind.*

952. A constant flow perfusion system. J. T. LITCHFIELD, JR., MAXINE ADAMS,* MARIAN JAEGER* AND CATHERINE TOY.* *Stamford Research Labs., American Cyanamid Company, Stamford, Conn.*

953. A method of testing for vasoactivity in isolated guinea pig kidney using a constant flow perfusion system. R. R. ROEPKE AND G. H. BREWER (introduced by J. T. LITCHFIELD, JR.). *Stamford Research Labs., American Cyanamid Company, Stamford, Conn.*

954. Nicotine and rabbit's isolated intestine. SYDNEY ELLIS AND HOLGER RASMUSSEN.* *Dept. of Pharmacology, Temple Univ. School of Medicine, Philadelphia, Pa.*

Cardiovascular Agents

MONDAY, 9:00 A.M.—CLUB ROOM B

Chairman: S. Krop

955. Drugs causing Bezold-Jarisch reflexes (veratridine, potassium, adrenaline and acetone) their carotid and intracranial actions. A. CERLETTI,* T. H. LI,* J. ALANIS* AND D. M. AVIADO, JR. *Lab. of Pharmacology, Univ. of Pennsylvania, Philadelphia.*

956. Bezold effect produced by several agents. HARRY A. WALKER, SUSANNE WILSON* AND ARTHUR P. RICHARDSON. *Dept. of Pharmacology, Emory Univ. School of Medicine, Emory University, Georgia.*

957. Effect on veratrine alkaloids on carotid sinus pressor reflex. ARTHUR P. RICHARDSON, CAROLYN FARRAR* AND HARRY A. WALKER. *Dept. of Pharmacology, Emory Univ. School of Medicine, Emory University, Georgia.*

958. Quinine-like action of veratramine upon single twitch and upon 'veratrine response' of sartorius muscle of the frog. OTTO KRAYER. *Dept. of Pharmacology, Harvard Med. School, Boston, Mass.*

959. Effects of veratrum alkaloids on isolated rabbit intestine. JAMES T. GOURZIS AND ROBERT O. BAUER (introduced by GEORGE MAISON). *Dept. of Pharmacology, Boston Univ. School of Medicine, Boston, Mass.*

960. Circulatory and cardiac metabolic changes following intravenous injections of protoveratrine. E. L. FOLTZ, R. G. PAGE, C. W. CRUMPTON AND J. ALANIS (introduced by PAUL R. DUMKE) *Robinette Fndn., Hosp. of Univ. of Pennsylvania and Lab. of Pharmacology, School of Medicine, Univ. of Pennsylvania, Philadelphia.*

961. Effects of protoveratrine on cerebral hemodynamics and oxygen metabolism in hypertensive subjects. CHARLES W. CRUMPTON,* WALTER C. KLINGENSMITH,* NELLY J. KEFFER* AND JOSEPH H. HAFKENSCHIEL. *Robinette Fndn., Med. Clinic. Hosp. of Univ. of Pennsylvania and Dept. of Pharmacology, Med. School, Univ. of Pennsylvania, Philadelphia.* (Physiol.).

962. Site of cardiovascular action of hypotensive veratrum derivatives. EDWARD D. SWISS,* HOPE SIMON* AND J. W. STUTZMAN. *Dept. of Pharmacology, Boston Univ. School of Medicine, Boston, Mass.*

963. Comparison of drug action in auricular flutter of aconitine and of circus movement origin. BARBARA B. BROWN (introduced by H. W. WERNER). *Pharmacology Dept., Wm. S. Merrell Company, Cincinnati, Ohio.*

964. Cardiac protective action of regitine (C-7337). LUCIEN E. MORRIS, CHUNG SANG YEIN, BRUNO HAID AND JOSEPH M. WHITE, JR. (introduced by ROBERT M. FEATHERSTONE). *Div. of Anesthesiology, State Univ. of Iowa Hosps., Iowa City.*

965. Cardiovascular actions of 2,3-benzodiazine-4-hydrazine (C-5968). J. BAYARD BRITTON,* JAMES P. TAYLOR* AND RAYMOND P. AHLQUIST. *Dept. of Pharmacology, Med. College of Georgia, Augusta.*

General Pharmacology

MONDAY, 9:00 A.M.—CLUB ROOM C

Chairman: M. T. Bush

966. Toxicology and anticoagulant activity of tromexan. CHARLES M. GRUBER, JR., CHARLES M. GRUBER, KWANG SOO LEE* AND ZINAIDA T. LASZICZENKO.* *Dept. of Pharmacology, Jefferson Med. College, Philadelphia, Pa.*

967. Comparison of physiological disposition of tromexan and dicumarol in man. MURRAY WEINER,* GEORGE SIMSON,* J. J. BURNS,* SHEPARD SHAPIRO* ELAINE L. KLEIN AND BERNARD B. BRODIE. *New York Univ. Research and Med. Services, Goldwater Memorial Hosp., New York City and Natl. Heart Inst., National Insts. of Health, Bethesda, Md.*

968. Uptake of radioactive thyroxine by tuber cinereum and hypophysis in thyroidectomized rabbits. EDWARD O. HARPER* AND PAUL A. MATTIS. *Dept. of Psychiatry and Pharmacology, Western Reserve Univ., Cleveland, Ohio.*

969. Effect of thyroidectomy and propylthiouracil upon pyrogenic action of dicumarol. LLOYD D. SEAGER AND PHILIP W. BERNSTORF.* *Dept. of Physiology and Pharmacology, Univ. of Arkansas School of Medicine, Little Rock.*

970. Quantitation of halogenated thiouracil in blood. GILMOUR L. WAGLE* AND ALBERT J. PLUMMER. *Research Dept., Div. of Macrobiology, Ciba Pharmaceutical Products, Inc., Summit, N. J.*

971. Site of action of cation exchange resins in removal of sodium from the G. I. tract. ARTHUR E. HEMING AND THOMAS L. FLANAGAN (introduced by EDWIN J. FELLOWS). *Research Div., Smith, Kline & French Labs., Philadelphia, Pa.*

972. Mechanism of action of synthetic tetrahydrocannabinol (parahexyl). MOHAMED ALI YOUSEF DAHI (introduced by E. M. K. GEILING). *Dept. of Pharmacology, Univ. of Chicago, Chicago, Ill.*

973. Treatment of chronic leukemia with triethylene melamine. LEO M. MEYER, ARTHUR SAWITSKY, MILTON R. BEYERS, NORTON D. RITZ AND CONRAD BRAHIN (introduced by ARTHUR C. DEGRAFF). *Goldwater Memorial Hosp. and Bronx V. A. Hosp., New York City.*

974. Effect of thiocyanate on blood electrolytes. ARTHUR BERNSTEIN, EMANUEL KLOSK, JAY BURGER, ALBERT M. SILVER AND FRANKLIN SIMON (introduced by HERBERT S. KUPPERMAN). *Newark Clin. Group, Newark, N. J.*

975. An experimental study of aryl triiodo alkanoic acid derivatives as cholecystographic media. JAMES O. HOPPE AND S. ARCHER.* *Sterling-Winthrop Research Inst., Rensselaer, N. Y.*

976. Psychic stress and voluntary choice of ethanol in rats. WILLIAM T. MOORE,* BERNICE M. DOUCET,* HERSHEL G. TREE* AND PAUL L. EWING. *Univ. of Texas Med. Branch, Galveston*

Monday Afternoon, April 30, 1:15 p.m.

Local Anesthetics

MONDAY, 1:15 P.M.—CLUB ROOM A

Chairman: J. K. W. Ferguson

977. Respiratory depressant action of some local anesthetics in anesthetized laboratory animals. L. A. WOODS, JANE HAGGART* AND J. COCHIN.* *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

978. Effects of procaine on histamine actions and histamine release. JOHN D. ARCHER,* JOE B. NASH,* J. EUGENE HILL* AND PAUL L. EWING. *Univ. of Texas Med. Branch, Galveston.*

979. Effect of procaine on squid axon (Loligo Pealii). A. P. TRUANT (introduced by BYRON B. CLARK). *Dept. of Pharmacology, Tufts College Med. School, Boston, Mass.*

980. Studies on procaine ascorbate. DONALD SLAUGHTER AND ROBERT HAZEL.* *Dept. of Physiology and Pharmacology, Univ. of South Dakota, Vermillion.*

981. Anesthesia. XXXV. Local anesthetic action of metahydroxyprocaine. RAYMOND M. BURGISON,* JOHN C. KRANTZ, JR., C. JELLEFF CARR, JAMES F. VITCHA* AND RUTH D. MUSSER.* *Dept. of Pharmacology, School of Medicine, Univ. of Maryland, Baltimore.*

982. Estimation and metabolism of lidocaine. F. G. MCMAHON* AND L. A. WOODS. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

983. Inhibition of hydrolysis of procaine and 2-chloroprocaine in plasma by neostigmine and dimethylcarbamate of (2-hydroxy-5-phenylbenzyl) trimethyl-ammonium bromide (NU-683). FRANCIS F. FOLDES AND MANUEL H. AVEN (introduced by L. O. RANDALL). *Dept. of Anesthesia, Mercy Hosp. and Univ. of Pittsburgh School of Medicine, Pittsburgh, Pa.*

984. Hydrolysis of procaine and 2-chloroprocaine in spinal fluid. MANUEL H. AVEN AND FRANCIS F. FOLDES (introduced by L. REINER). *Dept. of Anesthesia, Mercy Hosp. and Univ. of Pittsburgh School of Medicine, Pittsburgh, Pa.* (Biochem.)

985. Identity of procainesterase and pseudocholinesterase. WERNER KALOW (introduced by CARL F. SCHMIDT). *Lab. of Pharmacology, Univ. of Pennsylvania, Philadelphia.*

Barbiturates and Anticonvulsants

MONDAY, 1:15 P.M.—CLUB ROOM B

Chairman: C. M. Gruber

986. Comparison of physiological disposition and metabolic transformation of Nembutal and Pentothal. LESTER C. MARK, ELEONORE BERNSTEIN,* J. J. BURNS,* PHILIP A. LIEF* AND BERNARD B. BRODIE. *Depts. of Anesthesiology, New York Univ.-Bellevue Med. Center and Montefiore Hosp., New York Univ. Research Service, Goldwater Memorial Hosp., New York City, and Natl. Heart Inst., Natl. Insts. of Health, Bethesda, Md.*

987. Further studies on in vitro metabolism of thiopental. THELMA C. GOULD* AND F. E. SHIDEMAN. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

988. Influence of respiratory acidosis on plasma levels of thiopental sodium. CHALMERS J. RAYBURN,* RICHARD W. WHITEHEAD AND WILLIAM B. DRAPER. *Dept. of Physiology and Pharmacology, Univ. of Colorado Med. Center, Denver.*

989. Quantitative studies on potentiation of barbiturate anesthesia by glucose and sodium lactate. PAUL D. LAMSON, MARGARET E. GREIG AND CHARLIE J. HOBDY.* *Dept. of Pharmacology, Vanderbilt Univ. School of Medicine, Nashville, Tenn.*

990. Combined action of metrazol and aranthol in pentothal poisoning. ALFRED LEIMDORFER. *Dept. of Pharmacology, Stritch School of Medicine of Loyola Univ., Chicago, Ill.* (Physiol.).

991. An improved ultraviolet spectrophotometric procedure for determination and differentiation of barbiturates. LEO R. GOLDBAUM (introduced by PAUL K. SMITH). *Army Med. Service Graduate School, Army Med. Center, Washington, D. C.*

992. Physiological performance following a hypnotic dose of a barbiturate. ROBERT E. GOODNOW,* HENRY K. BEECHER, MARY A. B. BRAZIER,* FREDERICK MOSTELLER* AND RENATO TAGIURI.* *Anesthesia Lab. of Harvard Med. School at Massachuseits General Hosp., Boston.*

993. Anticonvulsant and toxic effects of alpha-phenyl-butyrylurea, an aliphatic analogue of phenobarbital and phenurone. MARSHALL J. ORLOFF,* P. E. FELDMAN,* CHARLES H. SHAIOVA* AND CARL C. PFEIFFER. *Dept. of Pharmacology, Univ. of Illinois College of Medicine, and Manteno State Hosp. Chicago.*

994. Distribution of tridione (3,5,5-trimethyl-oxazolidine-2,4-dione) in the tissues of the mouse. J. D. TAYLOR AND E. L. BERTCHER (introduced by R. K. RICHARDS). *Dept. of*

Pharmacology, Abbott Labs., North Chicago, Ill.

995. Effect of nephrectomy and liver injury on anticonvulsant activity of diphenylhydantoin. EWART A. SWINYARD, LAWRENCE C. WEAVER* AND LOUIS S. GOODMAN. *Depts. of Pharmacy and Pharmacology, Univ. of Utah, Salt Lake City.*

996. Experimental 'psychomotor' seizures and antiepileptic drugs. G. M. EVERETT AND J. E. P. TOMAN. *Dept. of Pharmacology, Abbott Labs., North Chicago, Ill.*

Pharmacology Society Business Meeting

MONDAY, 4:00 P.M.—CLUB ROOM B

Joint Session of the Federation

MONDAY, 8:00 P.M.—MUSIC HALL

Program on page 428

MIXER—INFORMAL RECEPTION

MONDAY 10:00 P.M.—EXHIBITON HALL

Tuesday Morning, May 1, 9:00 a.m.

Antibiotics and Chemotherapeutic Agents

TUESDAY, 9:00 A.M.—CLUB ROOM A

Chairman: H. Molitor

997. A new repository penicillin. J. N. SPENCER, H. G. PAYNE AND V. YOUNG (introduced by F. H. SCHULTZ, JR.). *Pharmaceutical Research Div., Commerical Solvents Corp., Terre Haute, Ind.*

998. Duration of therapeutic plasma penicillin levels with the penicillin salt of 1,2-diphenyl-2-methyl-aminoethanol. M. C. BACHMAN AND V. YOUNG (introduced by F. H. SCHULTZ, JR.). *Pharmaceutical Research Div., Commerical Solvents Corp., Terre Haute, Ind.*

999. Synthesis of Pyo Ic. IBERT C. WELLS (introduced by W. W. WESTERFELD). *Biochemistry Dept., Syracuse Med. College, Syracuse, N.Y.* (Biochem.).

1000. Action of rat liver slices upon pamaquine hydroidide. SHIRLEY J. NYDEN (introduced by E. M. K. GEILING). *Dept. of Pharmacology, Univ. of Chicago, Chicago, Ill.*

1001. A metabolite of pamaquine from chickens. EDWARD S. JOSEPHSON, JOSEPH GREENBERG, D. JANE TAYLOR AND H. L. BAMI (introduced by N. B. EDDY). *Natl. Insts. of Health, Natl. Microbiological Inst., Bethesda, Md., and Malaria Inst. of India, Delhi.*

1002. In vitro metabolism of pamaquine in chicken droppings. JOSEPH GREENBERG, EDWARD S. JOSEPHSON, H. L. BAMI AND D. JANE TAYLOR (introduced by N. B. EDDY). *Natl. Insts. of Health, Natl. Microbiological Inst., Bethesda, Md. and Malaria Inst. of India, Delhi.*

1003. Distribution of 2,4-diaminopyrimidine antimalarial in tissues of the dog. DORIS C. LORZ, PHOEBE LEE GRAHAM AND GEORGE H. HITCHINGS (introduced by E. J. DE BEER) *Wellcome Research Labs., Tuckahoe, N. Y.*

CORTISONE AND ACTH

1004. A critique of laboratory methods for evaluation of agents for use in collagen diseases. GERALD Q. O'NEILL, ROBERT T. FORD, DOROTHY N. DUGHI, ELAINE FADDIS, ROBERT L. PEIFFER AND WILLIAM S. WALLER (introduced by KARL H. BEYER). *Med. Research Div., Sharp & Dohme, Inc., Glenolden, Pa.*

1005. The Thorn test in institutionalized schizophrenic patients. ROBERT E. LEE,* CARVELLE BABCOCK,* RICHARD REILLY,* LOUIS SCHLANN* AND CARL C. PFEIFFER. *Dept. of Pharmacology, Univ. of Illinois College of Medicine and Manteno State Hosp., Chicago.*

1006. Cortisone therapy in barbiturate abstinence syndrome. H. F. FRASER,* H. ISBELL, ABRAHAM WIKLER, ANNA J. EISENMAN AND C. H. KORNETSKY.* *Research Branch, U. S. Public Health Service Hosp., Lexington, Ky.*

1007. Sex differences in response of the rat to ACTH. JACK M. CURTIS, ERNEST J. UMBERGER AND MARY H. McGOVERN (introduced by R. L. GRANT). *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1008. Effects of cortisone on intradermal pneumococcal infections in rabbits. HARRY J. ROBINSON. *Merck Inst. for Therapeutic Research, Rahway, N. J.*

1009. Effect of cortisone and other steroids on hibernating gland of the pregnant white rat. JOSEPH SEIFTER, JOHN J. CHRISTIAN* AND WILLIAM E. EHRICH.* *Wyeth Inst. of Applied Biochemistry, Wyeth Inc. and Graduate School of Medicine, Univ. of Pennsylvania, Philadelphia.*

1010. Adrenal steroid excretion in nitrogen trichloride ('agene') epilepsy. P. J. COSTA* AND D. D. BONNYCASTLE. *Dept. of Pharmacology, Yale Univ. School of Medicine, New Haven, Conn.*

1011. Endocrine and autonomic systems in choline deficiency. JAMES H. BAXTER. *Natl. Heart Inst., Natl. Insts. of Health, Bethesda, Md.*

Cardiovascular Agents

TUESDAY, 9:00 A.M.—CLUB ROOM B

Chairman: K. K. Chen

1012. Effects of strophanthine-G on coronary circulation in the dog. THEODORE R. SHERROD (introduced by CARL C. PFEIFFER). *Dept. of Pharmacology, Univ. of Illinois College of Medicine, Chicago.*

1013. Fixation of radioactive digitoxin by isolated hearts. A. SJOERDSMA AND C. FISCHER (introduced by E. M. K. GEILING). *Dept. of Pharmacology, Univ. of Chicago, Chicago, Ill.*

1014. Comparison of sensitivity of children and adults to digitoxin. SYDNEY MATHES,* THEODORE GREINER,* CHARLES MESSELOFF,* HARRY GOLD, MORRIS PEARLMUTTER* AND RAYMOND MARSH.* *Dept. of Pharmacology,*

Cornell Univ. Med. College, Cardiovascular Research Unit, Beth Israel Hosp., and Cardiology Service, Hosp. for Joint Diseases, New York City.

1015. Maintenance dose of a rapidly eliminated digitalis glycoside, digoxin. RAYMOND MARSH,* LAWRENCE HANLON,* HARRY GOLD, HAROLD OTTO,* THEODORE GREINER* AND SIDNEY MATHES.* *Dept. of Pharmacology, Cornell Univ. Med. College, Cardiovascular Research Unit, Beth Israel Hosp., and Cardiology Service, Hosp. for Joint Diseases, New York City.*

1016. Influence of size of infarct, lanatoside C and quinidine on incidence of ventricular fibrillation after coronary occlusion. ROBERT CASE, GEORGE MISRAHY, LOOMIS BELL, ROBERT NIMS AND WILLIAM PYLES (introduced by A. GILMAN). *Dept. of Medicine, Columbia Univ. College of Physicians and Surgeons, and St. Luke's Hosp., New York City.*

1017. Quinidine, auricular excitability and fibrillation. J. L. GILBERT,* A. A. SIEBENS,* B. F. HOFFMAN,* J. BELFORD,* H. M. WOSKE* AND C. McC. BROOKS. *State Univ. Med. Center at New York City.*

1018. Local emetic activity of digitalis glycosides. HERBERT L. BORISON, S. C. WANG AND T. D. HARRIS.* *Dept. of Pharmacology, Univ. of Utah College of Medicine, Salt Lake City, and Dept. of Physiology, Columbia Univ., New York City.*

1019. Further observations on site of emetic action of digitalis glycosides in man. THEODORE GREINER,* HARRY GOLD, HAROLD OTTO,* JOSEPH GLUCK,* SIDNEY MATHES* RAYMOND MARSH,* DEAN HUDSON,* DONALD ROBERTSON*, WALTER MODELL, LEON WARSHAW* AND MILTON KRAMER.* *Dept. of Pharmacology, Cornell Univ. Med. College, Cardiovascular Research Unit, Beth Israel Hosp., and Cardiology Service, Hosp. for Joint Diseases, New York City.*

1020. Effect of dinitrophenol on heart and on its response to a cardiac glycoside. ALBERT WOLLENBERGER AND MAX L. KARSH. (introduced by OTTO KRAYER). *Dept. of Pharmacology, Harvard Med. School, Boston, Mass.*

1021. Action of neriifolin in man. K. MEZEY AND J. PINEROS.* *Dept. of Pharmacology, Javeriana Univ. Med. School, Bogota, Colombia.*

1022. Cardiovascular effects of erythrophleum alkaloids. L. I. GOLDBERG* AND R. P. WALTON. *Dept. of Pharmacology, Med. College of South Carolina, Charleston.*

Toxicity

TUESDAY, 9:00 A.M.—CLUB ROOM C

Chairman: A. M. Ambrose

1023. Atypical dermatoses produced by certain agents in dermal preparations. JOHN H. DRAIZE, ELSIE ALVAREZ* AND MARIAN V. FREEMAN.* *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1024. Necrotizing action of various preparations for intramuscular injection. M. R. WARREN AND R. H. ALDEN.* *Divs. of Pharmacology and Anatomy, Univ. of Tennessee Med. Units, Memphis.*

1025. Direct application of tetanus toxin to the central nervous system. E. A. WRIGHT (introduced by OTTO KRAYER). *Dept. of Pharmacology, Harvard Med. School, Boston, Mass.*

1026. Tolerance in rabbits to bacterial pyrogens. DAVID M. TENNENT* AND WALTHER H. OTT. *Merck Inst. for Therapeutic Research, Rahway, N. J.* (Nutrit.).

1027. Acute toxicity of salicylic, *p*-aminobenzoic and *p*-aminosalicylic acid alone and in combination. GEORG CRONHEIM (introduced by GEORGE MAISON). *Research Lab., S. E. Massengill Company, Bristol, Tenn.*

1028. Subacute oral toxicity of ipecac and accumulation of its alkaloids in tissues. JACK L. RADOMSKI,* ERNEST C. HAGAN,* HENRY N. FUYAT* AND ARTHUR A. NELSON. *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1029. Toxicity studies on amberlite XE-96, a carboxylic type cation exchange resin. THOMAS L. FLANAGAN, MARY F. SAX AND ARTHUR E. HEMING (introduced by EDWIN J. FELLOWS). *Research Div., Smith, Kline & French Lab., Philadelphia, Pa.*

1030. Effect of methanol, formaldehyde and formic acid on tissue respiration. D. T. WATTS. *Dept. of Pharmacology, Univ. of Virginia Med. School, Charlottesville.*

1031. Inability of cobalt to produce polycythemia in rats treated with ethylenediamine tetracetic acid. GEORGE P. CHILD AND PETER LEONARD.* *Dept. of Physiology and Pharmacology, Albany Med. College, Albany, N. Y.*

1032. Reaction of man to intravenous gallium citrate. H. D. BRUNER. *Med. Div., Oak Ridge Inst. of Nuclear Studies, Oak Ridge, Tenn.*

1033. Effect of stable and radioactive gallium on Q_{O_2} of rat liver slices. JESSE D. PERKINSON, JR. AND ROBERT S. INGOLS (introduced by H. D. BRUNER). *Oak Ridge Inst. of Nuclear*

Studies, Oak Ridge, Tenn. and Georgia Inst. of Technology, Atlanta, Ga.

1034. Cyanide in the blood of dog and man following administration of thiocyanate. FREDRIC RIEDERS AND FRANZ GOLDSTEIN (introduced by CHARLES M. GRUBER). *Depts. of Pharmacology and Surgical Research, Jefferson Med. College, Philadelphia, Pa.*

1035. Comparative toxicity of halogenated hydrocarbons proposed for fire extinguishants. FRED W. OBERST, CHARLES C. COMSTOCK* AND FRANCIS P. MCGRATH.* *Med. Div., Army Chemical Center, Md.*

Autonomic Agents

TUESDAY, 9:00 A.M.—BALLROOM

Chairman: G. H. Acheson

1036. Elimination of enzyme diffusion artefacts in the histochemical localization of cholinesterases. GEORGE B. KOELLE. *Dept. of Pharmacology, Columbia Univ. College of Physicians and Surgeons, New York City.*

1037. Tetraethylammonium ion and cholinesterase activity. C. J. KENSLER AND R. W. ELSNER.* *Dept. of Pharmacology, Cornell Univ., New York City.*

1038. Cholinesterase, choline oxidase and tributyrinase activity of rat liver and rat liver tumors. H. LANGEMANN* AND C. J. KENSLER. *Dept. of Pharmacology, Cornell Univ. Med. College, New York City.*

1039. Inhibition of cholinesterase by dimethylamino fluorophosphate. KENNETH P. DUBOIS AND KENNETH W. COCHRAN.* *Dept. of Pharmacology, Univ. of Chicago, Chicago, Ill.*

1040. Toxicity and anticholinesterase action of an alkyl coumarin thiophosphate (E838). KENNETH W. COCHRAN,* JOHN DOULL* AND KENNETH P. DUBOIS. *Dept. of Pharmacology, Univ. of Chicago, Chicago, Ill.*

1041. Rate of recovery of plasma, red cell and brain tissue of rats following cholinesterase inhibition by organic phosphates. JOHN P. FRAWLEY AND ERNEST C. HAGAN (introduced by O. G. FITZHUGH). *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1042. In vivo inhibition of blood and tissue cholinesterases by DFP. MADELEINE L. MACFARLAND AND BERNICE E. HINES (introduced by L. I. PUGSLEY). *Defence Research Board, Ottawa, Ontario, Canada.* (Biochem.)

1043. Immunological studies on a highly purified cholinesterase. W. C. HOLLAND (introduced by MARGARET E. GREIG). *Dept. of Pharmacology, Vanderbilt Univ. School of Medicine, Nashville, Tenn.*

1044. Replacement of potassium in the human erythrocyte during cholinesterase activity. MARGARET E. GREIG, THOMAS C. MAYBERRY* AND C. ELIZABETH DUNN.* *Dept. of Pharmacology, Vanderbilt Univ. School of Medicine, Nashville, Tenn.*

1045. An evaluation of central action of anticholinesterases in producing respiratory paralysis. WILLIAM A. KRIVOY* AND AMEDEO S. MARRAZZI. *Toxicology Section, Med. Div., Army Chemical Center, Md.*

1046. Reduction of anticholinesterase activity by anticholinergic agents. W. E. HAMBOURGER, HOMER B. FREESE,* DONALD L. COOK* AND D. M. GREEN. *Div. of Biological Research, G. D. Searle & Company, Chicago, Ill.*

1047. Evaluation of histamine liberator activity, illustrated by a thiophanium compound RO 2-2222. RUTH MITCHELL,* PEGGY JO NEWMAN,* DOUGALD MACGILLIVRAY* AND BYRON B. CLARK. *Dept. of Pharmacology, Tufts College Med. School, Boston, Mass.*

1048. Cholinesterase as a cholinergic blocking agent II. GUY C. SHEATZ,* ALEXANDER G. KARCZMAR* AND THEODORE KOPPANYI. *Dept. of Pharmacology, Georgetown Univ. School of Medicine, Washington, D. C.*

Tuesday Afternoon, May 1, 1:15 p.m.

Neuromuscular Agents

TUESDAY, 1:15 P.M.—CLUB ROOM A

Chairman: L. D. Seager

1049. Curare compounds. IX. Curariform activity of calabash-toxiferin I chloride. D. A. HERRING* AND DAVID F. MARSH. *Dept. of Pharmacology, West Virginia Univ. School of Medicine, Morgantown.*

1050. Curare compounds. X. Distribution and fate of radioactive *d*-chondocurarine and *d*-tubocurarine dimethylether iodide. DAVID F. MARSH. *Dept. of Pharmacology, West Virginia Univ. School of Medicine, Morgantown.*

1051. Pharmacological effects of isoquinolinium compounds. THEODORE O. KING (introduced by T. KOPPANYI). *Univ. of Wyoming College of Pharmacy, Laramie.*

1052. Anti-curare effect of 3-hydroxypenyl dimethyl-ethylammonium bromide (RO 2-3198) in the rat. E. F. VAN MAANEN (introduced by G. H. ACHESON). *Dept. of Pharmacology,*

Univ. of Cincinnati College of Medicine, Cincinnati, Ohio.

1053. Effect of thiopental and pentobarbital on contractions of normal, denervated and curarized mammalian muscle. CHARLES P. KRAATZ, MELVYN I. GLUCKMAN* AND HUBERT L. SHIELDS.* *Dept. of Pharmacology, Jefferson Med. College, Philadelphia, Pa.*

1054. A comparison of effect of various barbiturates on contraction of skeletal muscle. MELVYN I. GLUCKMAN* AND CHARLES P. KRAATZ. *Dept. of Pharmacology, Jefferson Med. College, Philadelphia, Pa.*

1055. Influence of 4n-alkoxy benzilic acid esters of diethyl-aminoethanol upon canine tremor-rigidity syndrome. BENEDICT E. ABREU, ALICE B. RICHARDS,* JOSEPH M. LEAP* AND WILLIAM M. ALEXANDER.* *Research Dept., Pitman-Moore Company, Indianapolis, Ind.*

1056. Pharmacology of triiodoethylate of tri(β-diethyl-amino-ethoxy)-1,2,3 benzene (flaxedil). CHRISTIAN WINGARD,* WALTER F. RIKER, JR. AND W. CLARKE WESCOE. *Dept. of Pharmacology, Cornell Univ. Med. College, New York City.*

1057. Triiodoethylate of tri(diethyl-amino-ethoxy) 1,2,3 benzene (flaxedil) in anesthetized man. B. E. MARBURY AND JOSEPH F. ARTUSIO, JR. (introduced by WALTER F. RIKER). *Depts. of Surgery (Anesthesia) and Pharmacology, Cornell Univ. Med. College and New York Hosp., New York City.*

1058. A stationary micro-respirometer for isolated mammalian muscle allowing simultaneous registration of mechanical activity. JAMES R. WEEKS* AND MAYNARD B. CHENOWETH. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1059. Action of bovine erythrocyte cholinesterase on neuromuscular transmission. I. T. BECK (introduced by K. I. MELVILLE). *Dept. of Pharmacology, McGill Univ., Montreal, Quebec, Canada.*

1060. Neuromuscular effects of DFP. B. P. MCNAMARA, A. D. BERGNER,* E. M. ROBINSON,* E. F. MURTHA* AND J. H. WILLS. *Med. Div., Army Chemical Center, Md.*

Autonomic Agents

TUESDAY, 1:15 P.M.—CLUB ROOM B

Chairman: E. J. de Beer

1061. Action of TEAC on dog ileum in presence and absence of distension. FREDERICK H. MEYERS (introduced by ROBERT A. WOODBURY). *Div. of Pharmacology, Univ. of Tennessee, Med. Units, Memphis.*

1062. A comparative study of adrenergic blocking agents. RAYMOND P. AHLQUIST AND JAMES P. TAYLOR.* *Dept. of Pharmacology, Med. College of Georgia, Augusta.*

1063. Comparative effectiveness of various sympathomimetic amines for interruption of adrenergic blockade. ROBERT A. WOODBURY, MARSHALL R. WARREN, ARTHUR W. WALKER* AND ROBERT W. PREVOST, JR.* *Div. of Pharmacology, Univ. of Tennessee Med. Units, Memphis.*

1064. Adrenergic mechanisms in the chicken. STEWART C. HARVEY* AND MARK NICKERSON. *Dept. of Pharmacology, Univ. of Utah College of Medicine, Salt Lake City.*

1065. Sympathetic ganglionic blocking activity of trasentine hydrochloride and some of its homologues. ANNE CAMERON,* FREDRICK F. YONKMAN AND ALBERT J. PLUMMER. *Research Dept., Div. of Macrobiology, Ciba Pharmaceutical Products, Inc., Summit, N. J.*

1066. Effects of parpanit on sympathetic ganglia. ALEXANDER G. KARCZMAR,* DONALD F. BOGDANSKI* AND THEODORE KOPPANYI. *Dept. of Pharmacology, Georgetown Univ. School of Medicine, Washington, D. C.*

1067. Observations on nicotinolytic activity of some aralkyl amines. P. S. LARSON, C. B. VAN SLYKE,* J. K. FINNEGAN AND H. B. HAAG. *Dept. of Pharmacology, Med. College of Virginia, Richmond.*

1068. Localization of Dibenamine in fat as a possible explanation of its duration of action. BERNARD B. BRODIE, LEWIS ARONOW,* ELWOOD TITUS* AND JULIUS AXELROD.* *Natl. Heart Inst., Natl. Insts. of Health, Bethesda, Md.*

1069. Blockade of responses to epinephrine and norepinephrine by Dibenamine congeners. MARK NICKERSON, JAMES W. HENRY* AND GEORGE M. NOMAGUCHI.* *Dept. of Pharmacology, Univ. of Utah College of Medicine, Salt Lake City.*

1070. Suppression of tachycardia following adrenergic blockade. ALBERT J. PLUMMER, WILLIAM B. REITZE* AND FREDRICK F. YONKMAN. *Research Dept., Div. of Macrobiology, Ciba Pharmaceutical Products, Inc., Summit, N. J.*

1071. Pharmacologic studies with (2-phenyl-2-chloro)ethylmethylbenzylamine in animals and man. F. G. HENDERSON, D. PIETZ,* K. G. KOHLSTAEDT* AND K. K. CHEN. *Lilly Research Labs., Indianapolis, Ind.*

1072. Prevention of drug-produced ejaculation by autonomic ganglionic and adrenergic blockade. S. LOEWE AND SUSANNE L. PUTTUCK.* *Dept. of Pharmacology, Univ. of Utah College of Medicine, Salt Lake City.*

General Pharmacology

TUESDAY, 1:15 P.M.—CLUB ROOM C

Chairman: E. G. GROSS

1073. Rapid determination for tocopherol in plasma. MILTON FARBER,* A. T. MILHORAT AND HARRIS ROSENKRANTZ.* *Depts. of Psychiatry and Medicine, Cornell Univ. Med. College and New York Hosp., New York City.*

1074. Effects of estrogens and progesterone on motility of feline uterus in vivo. MARY LEE CLARY,* ANNE CAMERON* AND BRADFORD N. CRAVER. *Research Dept., Div. of Macrobiology, Ciba Pharmaceutical Products, Inc., Summit, N. J.*

1075. Further evidence of cholesterol—ascorbic acid antagonism in blood; role of the adrenocortical hormones. FRANCES MAE DENT,* RAYMOND L. HAYES* AND WALTER M. BOOKER. *Depts. of Pharmacology and Oral Medicine, Howard Univ. Colleges of Medicine and Dentistry, Washington, D. C.*

1076. Electrical effects produced by brain lipids in contact with neurohormones and drugs. REINHARD H. BEUTNER AND LOUISE WILLIAMS.* *Dept. of Pharmacology, Med. College of Alabama and School of Dentistry, Univ. of Alabama, Birmingham.*

1077. Therapeutic efficiency of 'blood substitutes' in experimental traumatic shock. LEHMAN M. LUSKY* AND HERBERT A. BRAUN. *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1078. Effects of dextran and some other plasma substitutes in traumatic shock in mice. R. CARL MILLICAN,* SANFORD M. ROSENTHAL, ROBERT W. MOWRY* AND E. F. STOHLMAN. *Natl. Insts. of Health, Bethesda, Md.*

1079. Metabolism of 8-azaguanine in rabbits. ALFRED GELLHORN, JACOB KREAM* AND ERICH HIRSCHBERG.* *Cancer Research Inst., Columbia Univ., College of Physicians and Surgeons, New York City.*

1080. Complete reversibility of inhibition of hyaluronidase by serum. ZAREH HADIDIAN. *Dept of Pharmacology, Tufts College Med. School, Boston, Mass.* (Physiol.)

1081. Application of surviving isolated rat liver to study of bile production mechanism. R. W. BRAUER, R. L. PESSOTTI* AND M. P. FINLEY.* *Dept. of Pharmacology and Exptl. Therapeutics, School of Medicine, Louisiana State Univ., New Orleans.*

1082. Reversible agglutination of trypsin modified erythrocytes by normal human sera. MARTIN ROSENTHAL AND LAWRENCE SCHWARTZ (introduced by JOSEPH H. PRATT). *Ziskind Labs., J. H. Pratt and New England Center Hosps. and Dept. of Medicine, Tufts College Med. School, Boston, Mass.*

1083. Acute effects of oral gluconates in diabetes. RUDOLF KOSTER. *Dept. of Pharmacology, Tulane Univ., New Orleans, La.*

1084. Experimental diabetes produced by 8-hydroxyquinoline. MARY A. ROOT* AND K. K. CHEN. *Lilly Research Labs., Indianapolis, Ind.*

Federation Discussion Meeting

Open to Members of All Societies

TUESDAY, 4:00 P.M.—MUSIC HALL

Wednesday Morning, May 2, 9:00 a.m.

Cardiovascular Agents

WEDNESDAY, 9:00 A.M.—CLUB ROOM A

Chairman: A. J. Lehman

1085. Experimental medionecrosis of arterial tree and its prevention by ammonium chloride. DAVID LEHR. *Dept. of Pharmacology, New York Med. College, Flower and Fifth Avenue Hosps., New York City.*

1086. Action of polypropylene glycols with average molecular weights of 400, 750, 1200 and 2000 on cardiovascular and central nervous systems of the dog. LEONARD PROCITA* AND F. E. SHIDEMAN. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1087. Effects of sympathomimetic agents on coronary flow and heart action, recorded simultaneously. F. C. LU* AND K. I. MELVILLE. *Dept. of Pharmacology, McGill Univ., Montreal, Quebec, Canada.*

1088. Cardiovascular effects of triethanolamine trinitrate—a preliminary study. K. I. MELVILLE AND F. C. LU.* *Dept. of Pharmacology, McGill Univ., Montreal, Quebec, Canada.*

1089. Effect of nitrites and nitrates on oxygen uptake of arterial tissue. M. JOYCE KNAPP,* C. JELLEFF CARR AND JOHN C. KRANTZ, JR. *Dept. of Pharmacology, School of Medicine, Univ. of Maryland, Baltimore.*

1090. Effect of nitrites and nitrates on arterial adenosine triphosphatase. C. JELLEFF CARR, JOHN C. KRANTZ, JR. AND HAROLD C. BRYANT.* *Dept. of Pharmacology, Univ. of Maryland, Baltimore.*

1091. Influence of potassium and calcium on mammalian myocardial activity within the physiological range. JACK PETER GREEN AND NICHOLAS J. GIARMAN (introduced by WILLIAM T. SALTER). *Dept. of Pharmacology, Yale Univ. School of Medicine, New Haven, Conn.*

1092. Comparison of several coronary vasodilators: khellin, papaverine, aminophylline, epinephrine, nor-epinephrine, and neosynephrine. HAROLD HARDMAN AND THEODORE R. SHERROD (introduced by CARL C. PFEIFFER). *Dept. of Pharmacology, Univ. of Illinois College of Medicine, Chicago.*

1093. Vasodepressor activity of adenosine, 2-chloro-adenosine and related nucleosides. D. A. CLARKE,* J. DAVOLL,* F. S. PHILIPS AND G. B. BROWN. *Pharmacology Section, Divs. of Exptl. Chemotherapy and Protein Chemistry, Sloan-Kettering Inst. for Cancer Research, New York City.*

1094. Effect of vasomotor drugs on flicker fusion frequency. CHARLES D. HENDLEY (introduced by DONALD SLAUGHTER). *Dept. of Physiology and Pharmacology, Univ. of South Dakota, Vermillion.*

Autonomic Agents

WEDNESDAY, 9:00 A.M.—CLUB ROOM B

Chairman: A. P. Richardson

1095. Difference in response of normal and chronically denervated submaxillary salivary gland of cat to acetylcholine. A. R. GRAHAM* AND G. W. STAVRAKY. *Dept. of Physiology, Faculty of Medicine, Univ. of Western Ontario, London, Canada.*

1096. Effects of drugs and methionine sulfoximine on acetylcholine synthesis by brain slices. HUGH MCLENNAN* AND K. A. C. ELLIOTT. *Montreal Neurological Inst., Montreal, Quebec, Canada.* (Biochem.)

1097. Effect of botulinus toxins on biosynthesis of acetylcholine. WILLIAM D. HARKNESS, WALKER L. LOVING AND GEOFFREY WOODARD (introduced by BERT J. VOS). *Divs. of Pharmacology and Microbiology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1098. Models demonstrating electrical action of atropine on cellular receptors. T. C. BARNES. *Dept. of Pharmacology, Hahnemann Med. College. of Philadelphia, Philadelphia, Pa.*

1099. Tachyphylaxis to inhibitory action of atropine on intestinal motility. GRACE W. GRAY* AND M. H. SEEVERS. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1100. Further studies on effects of atropine on intestine of the dog before and after denervation. L. C. HENDERSHOT,* G. W. GRAY,* R. M. WHITEROCK* AND M. H. SEEVERS. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1101. An evaluation of isolated rabbit ileum as a quantitative determination of antispasmodic activity. E. B. COOK,* MURRAY B. BLAIR* AND BYRON B. CLARK. *Dept. of Pharmacology, Tufts College Med. School, Boston, Mass.*

1102. Antispasmodic action of basic esters and quaternary derivatives of β-hydroxy acids.

E. W. BLANCHARD, M. H. EHRENBERG,* J. RAMP* AND G. R. TREVES.* *Research Labs., Schieffelin & Company, New York City.* (Physiol.)

1103. Spasmolytic activity of phenyl γ-(2-pyridyl) propyl ketone (EJA II) and some related compounds. J. F. O'LEARY AND I. H. SLATER (introduced by HERBERT B. STOKINGER). *Divs. of Pharmacology and Orthopaedic Surgery, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.*

1104. Some effects of phenyl γ-(2-pyridyl) propyl ketone (EJA II) on central nervous system. I. H. SLATER, J. F. O'LEARY AND D. E. LEARY (introduced by JAMES K. SCOTT). *Divs. of Pharmacology and Orthopaedic Surgery, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.* (Pathol.)

1105. Antispasmodic activity of a series of cinnamic acid esters and amides of diethylaminoethanol. MURRAY BLAIR,* ELLSWORTH B. COOK,* MICHAEL ROTHENBERG* AND BYRON B. CLARK. *Dept. of Pharmacology, Tufts College Med. School, Boston, Mass.*

1106. Trasentine analogues—inhibitors of gastric secretion. WALTER BARRETT,* RICHARD RUTLEDGE,* ALBERT J. PLUMMER AND FREDRICK F. YONKMAN. *Research Dept., Div. of Macrobiology, Ciba Pharmaceutical Products, Inc., Summit, N. J.*

Analgesics

WEDNESDAY, 9:00 A.M.—CLUB ROOM C

Chairman: P. K. Smith

1107. Measurement of analgesia in rats. PAUL E. TULLAR (introduced by RUSSELL A. HUGGINS). *Dept. of Pharmacology, Univ. of Texas, Dental Branch, Houston.*

1108. Action of common analgetic materials on spinal reflexes. LEONARD COOK* AND D. D. BONNYCASTLE. *Dept. of Pharmacology, Yale Univ. School of Medicine, New Haven, Conn.*

1109. Fate of C^{14} labeled acetylsalicylic acid. R. W. KNOUSE,* W. D. PAUL* AND J. I. ROUTH. *Depts. of Biochemistry and Medicine, State Univ. of Iowa College of Medicine, Iowa City.* (Biochem.).

1110. Respiratory effects of some new analgesics. ARTHUR S. KEATS* AND HENRY K. BEECHER. *Anesthesia Lab. of Harvard Med. School at Massachusetts General Hosp., Boston.*

1111. Experimental tolerance to hyperglycemia produced in rabbits by analgesic compounds. K. K. KIMURA, B. DEBOER, L. WALTS* AND E. KEITH.* *Dept. of Pharmacology, Saint Louis Univ. School of Medicine, Saint Louis, Mo.*

1112. Effect of addiction to morphine on excretion of water and electrolytes. ANNA J. EISENMAN. *Research Branch, U. S. Public Health Service Hosp., Lexington, Ky.* (Biochem.).

1113. A preliminary study of effects of anxiety and morphine on discrimination of painful stimuli. H. E. HILL,* C. H. KORNETSKY,* H. G. FLANARY* AND ABRAHAM WIKLER. *Natl. Inst. of Mental Health, Natl. Insts. of Health, U. S. Public Health Service Hosp., Lexington, Ky.*

1114. Antagonistic action of N-allylnormorphine upon analgetic and toxic effects of morphine, methadone derivatives and isonipecaine. C. C. SMITH, E. G. LEHMAN AND J. L. GILFILLAN (introduced by HANS MOLITOR). *Merck Inst. for Therapetic Research, Rahway, N. J.*

1115. Effects of large doses of N-allylnormorphine on man. ABRAHAM WIKLER. *Research Branch, U. S. Public Health Service Hosp., Lexington, Ky.*

1116. Effects of N-allylnormorphine on cholinesterases. THOMAS R. BLOHM AND WANDA GONZALEZ WILLMORE (introduced by ERNEST BEERSTECHER). *Dept. of Biochemistry, Univ. of Texas School of Dentistry, Houston.* (Biochem.)

1117. Effects of potent analgesics upon vestibular function. LEONARD B. GUTNER,* WILBUR J. GOULD* AND ROBERT C. BATTERMAN. *Dept. of Therapeutics, New York Univ. College of Medicine, New York City.*

1118. Analgesic action of sodium gentisate. ROBERT C. BATTERMAN, LAWRENCE S. KRYLE* AND SIDNEY DANN.* *Dept. of Therapeutics, New York Univ. College of Medicine, New York City.*

1119. A new method for estimation of gentisic acid. EDWARD L. ALPEN AND VICTOR W. RODWELL (introduced by PAUL K. SMITH). *Dept. of Pharmacology, George Washington Univ. School of Medicine, Washington, D. C.*

1120. Excretion of gentisic acid in man as influenced by alkalinization and acidification. EVELYN M. SOMMER* AND ROBERT C. BATTERMAN. *Dept. of Therapeutics, New York Univ. College of Medicine, New York City.*

Wednesday Afternoon, May 2, 1:15 p.m.

Cardiovascular Agents

WEDNESDAY, 1:15 P.M.—CLUB ROOM A

Chairman: R. A. Waud

1121. Metabolism associated with positive inotropic action. DONALD BENNETT* AND MAYNARD B. CHENOWETH. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1122. Effectiveness of Dibenamine in blocking inotropic action of epinephrine and corresponding ineffectiveness with digitalis. M. DEV. COTTEN* AND R. P. WALTON. *Dept. of Pharmacology, Med. College of South Carolina, Charleston.*

1123. Inotropic action of blood serum fractions upon frog heart and cat myocardium. WILLIAM T. SALTER, NICHOLAS J. GIARMAN* AND JACK PETER GREEN.* *Dept. of Pharmacology, Yale Univ. School of Medicine, New Haven, Conn.*

1124. Effect of a new derivative of a myocardial extract in cardiac conditions. ALLEN WEISS,* DAVID H. FELDMAN* AND FREDERICK STEIGMANN. *Cook County Hosp., Chicago, Ill.*

1125. A separation of positive inotropic actions of ouabain and fluorobutyrate. MICHAEL J. TAKOS* AND MAYNARD B. CHENOWETH. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1126. Influence of metabolic inhibitors on contractility of the papillary muscle. MARTIN M. WINBURY,* W. E. HAMBOURGER AND D. M. GREEN. *Div. of Biological Research, G. D. Searle & Company, Chicago, Ill.*

1127. Certain aspects of the action of ergot alkaloids on middle meningeal artery of the dog. JOSEPH M. WHITE,* JAMES A. RILEY,* H. S. BURR* AND E. L. MCCAWLEY. *Dept. of Pharmacology and Section of Neuroanatomy, Yale Univ., School of Medicine, New Haven, Conn.*

1128. Effect of procaine, 'Pronestyl,' and β-diethylaminoethanol on epinephrine-cyclopropane induced ventricular arrythmias. CARL C. GRUHZIT (introduced by MAYNARD B. CHENOWETH). *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1129. Cardio-vascular effects of procaine amide. PEGGY JO NEWMAN* AND BYRON B. CLARK. *Dept. of Pharmacology, Tufts College Med. School, Boston, Mass.*

1130. Effect of procaine, epinephrine, cardiac massage and electrical countershock on ventricular fibrillation. CHARLES FRANK,* GEORGE MISRAHY,* HSUEH H. WANG*, ROBERT MILLER* AND RENÉ WÉGRIA. *Dept. of Medicine, Columbia Univ. College of Physicians and Surgeons, and Presbyterian Hosp., New York City.*

1131. Evaluation of drugs for possible use in therapy of auricular fibrillation. E. L. MCCAWLEY, G. A. WESTON* AND H. L. H. DICK.* *Dept. of Pharmacology, Univ. of Oregon Med. School, Portland.*

CNS Agents

WEDNESDAY, 1:15 P.M.—CLUB ROOM B

Chairman: D. Slaughter

1132. Depression of transmission through sympathetic ganglia produced by inhalation anesthetic agents. DUNCAN A. HOLADAY AND MARTIN G. LARRABEE (introduced by E. M. PAPPER). *Dept. of Anesthesia, Columbia-Presbyterian Med. Center, New York City, and Dept. of Biophysics, Johns Hopkins Univ. and Hosp., Baltimore, Md.*

1133. Refractory period and conduction time studies with ethyl ether, cyclopropane and chloroform using turtle ventricle strips. JOHN ABAJIAN, JR. AND EDWARD BRAZELL (introduced by N. B. DREYER). *Dept. of Anesthesiology, Univ. of Vermont, Burlington.*

1134. Diethylether and chloroform on brain ATPase. GO LU, J. S. L. LING,* C. JELLEFF CARR AND JOHN C. KRANTZ, JR. *Dept. of Pharmacology, School of Medicine, Univ. of Maryland, Baltimore.*

1135. A correlation of responses of cardiovascular system of man with different methods of anesthetic administration. ROBERT T. CAPPS,* GORDON GARNETT* AND O. SIDNEY ORTH. *Depts. of Pharmacology and Anesthesiology, Univ. of Wisconsin Med. School, Madison.*

1136. Anesthetic properties of xenon in animals and human beings with some additional observations of krypton. STUART C. CULLEN AND ERWIN G. GROSS. *Div. of Anesthesiology, Depts. of Surgery and Pharmacology, State Univ. of Iowa College of Medicine, Iowa City.*

1137. A clinical evaluation of use of atropine or scopolamine alone as premedicating agents. O. SIDNEY ORTH, JOSELYN ROBB* AND K. E. LEMMER.* *Depts. of Pharmacology, Anesthesiology and Surgery, Univ. of Wisconsin Med. School, Madison.*

1138. Needless use of narcotic in preanesthetic medication. ELLIS N. COHEN* AND HENRY

K. BEECHER. *Anesthesia Lab. of Harvard Med. School at Massachusetts General Hosp., Boston.*

1139. Cerebral synaptic action of amphetamine and ephedrine compared with that of caffeine. AMEDEO S. MARRAZZI AND E. ROSS HART. *Toxicology Section, Med. Div., Army Chemical Center, Md.*

Pharmacology Society Business Meeting

WEDNESDAY, 4:00 P.M.—CLUB ROOM B

Pharmacology Society Dinner

WEDNESDAY, 7:00 P.M.—HOTEL STATLER

Thursday Morning, May 3, 9:00 a.m.

Antihistaminic Agents

THURSDAY, 9:00 A.M.—CLUB ROOM A

Chairman: A. E. Livingston

1140. Alteration of vasopressin-induced blood pressure tachyphylaxis by antihistaminic drugs. JAMES S. BROWN,* ROBERT A. WOODBURY AND ROGER E. GIBSON.* *Div. of Pharmacology, Univ. of Tennessee Med. Units, Memphis.*

1141. Local antihistaminic activity of antihistamines in the rabbit eye. M. SHAW,* J. GIBLIN,* M. T. SPOERLEIN,* S. MARGOLIN* AND R. TISLOW. *Biological Research Labs., Schering Corp., Bloomfield, N. J.*

1142. Complete protection against lethal anaphylactic shock in guinea pigs by oral chlortrimeton maleate. M. T. SPOERLEIN,* E. MAKOVSKY,* S. MARGOLIN* AND R. TISLOW. *Biological Research Lab., Schering Corp., Bloomfield, N. J.*

1143. Central depression of the antihistaminics. MAX A. HEINRICH, JR. (introduced by CHARLES P. KRAATZ). *Dept. of Pharmacology, Jefferson Med. College, Philadelphia, Pa.*

1144. Barbiturate antagonism of antihistaminic overdosage. WOODROW C. HERBERT* AND E. LEONG WAY. *Div. of Pharmacology and Exptl. Therapeutics, School of Medicine and College of Pharmacy, Univ. of California, San Francisco.*

1145. Synergistic effect of Thenfadil (N,N-Dimethyl-N′-(3-thenyl)-N′-α pyridyl)-ethylenediamine (sic)) and WIN 3046 (1-(3,4-dihydroxyphenyl-2-isopropylamino-1-butanol)) in guinea pigs exposed to histamine aerosols. JESSE I. GRANT (introduced by A. M. LANDS). *Biology Div., Sterling-Winthrop Research Inst., Rensselaer, N. Y.*

1146. Further studies on in vitro metabolism of histamine. HERBERT TABOR AND HUGO BAUER.* *Natl. Insts. of Health, Bethesda, Md.*

RENAL AGENTS

1147. Dog and rat as test animals for diuretic testing. C. GORDON VAN ARMAN,* W. E. HAMBOURGER AND D. M. GREEN. *Div. of Biological Research, G. D. Searle & Company, Chicago, Ill.*

1148. Significance of the GFR/TmG ratio. JOHN H. MOYER AND CARROLL A. HANDLEY. *Dept. of Pharmacology, Baylor Univ. College of Medicine, Houston, Tex.*

1149. A quantitative method for determining ability of surviving renal slices to concentrate phenolsulfonphthalein. ROBERT C. RATHBUN* AND F. E. SHIDEMAN. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1150. Mechanisms of renal effects from morphine. CARROLL A. HANDLEY AND JOHN H. MOYER.* *Dept. of Pharmacology, Baylor Univ. College of Medicine, Houston, Tex.*

1151. Some effects of mercurial diuretics on renal sodium excretion in the dog. A. FARAH, T. C. COBBEY* AND W. MOOK.* *Depts. of Pharmacology and Medicine, Univ. of Washington, Seattle, and State Univ. of New York, Syracuse.*

1152. Effect of mercurials on rat tissue enzyme systems. R. A. SEIBERT* AND C. A. HANDLEY. *Dept. of Pharmacology, Baylor Univ. College of Medicine, Houston, Tex.*

1153. Inhibition of renal tubular transport of phenolsulfonphthalein in the dog by dehydroacetic acid and its reversal by acetate. FERNLEY STONEMAN,* F. E. SHIDEMAN AND ROBERT C. RATHBUN.* *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

Toxicity

THURSDAY, 9:00 A.M.—CLUB ROOM C

Chairman: J. H. Draize

1154. Comparative toxicity of pyrethrins and aliethrin. ANTHONY M. AMBROSE AND DOROTHY J. ROBBINS.* *Pharmacology Lab., Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Dept. of Agriculture, Albany, Calif.*

1155. Storage of a metabolite of chlordane in the tissues of animals. BERNARD DAVIDOW, ERNEST C. HAGAN AND JACK L. RADOMSKI (introduced by ARNOLD J. LEHMAN). *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1156. Comparison of the chronic effects produced in rats by several chlorinated hydrocarbon insecticides. O. G. FITZHUGH AND A. A. NELSON. *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1157. Effect of carbon tetrachloride on the toxicity

and storage of methoxychlor in the rat. EDWIN P. LAUG AND FRIEDA M. KUNZE.* *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1158. Chronic toxicity studies of guanidineacetic acid and ethanolamine in rats. LUCILE WILLIAMS* AND HAROLD C. HODGE. *Univ. of Rochester, Rochester, N. Y.*

1159. Pharmacological actions of 'endothal' (disodium-3,6-endoxo-hexahydrophthalic acid). STANLEY E. SRENSEK AND GEOFFREY WOODARD (introduced by ARNOLD J. LEHMAN). *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1160. Effect of cysteine in reducing the toxicity of nitrogen mustards. A. CLARK GRIFFIN AND EUGENIA L. BRANDT.* *Dept. of Chemistry, Stanford Univ., Stanford, Calif.* (Biochem.)

1161. Relationship of blood and brain cholinesterase levels to the acute oral toxicities of some organic phosphates. ERNEST C. HAGAN AND JOHN P. FRAWLEY (introduced by ARNOLD J. LEHMAN). *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1162. Comparative toxicity of a series of derivatives of phosphorus containing acids. E. L. MAYO,* C. H. HINE AND T. N. BURBRIDGE.* *Div. of Pharmacology and Exptl. Therapeutics, Univ. of California School of Medicine, San Francisco, Calif.*

1163. Deterioration of sodium monofluoroacetate in water and saline solutions. BERNICE L. HARRISON,* AURORA V. BRANSFORD* AND B. P. MCNAMARA. *Pharmacology Section, Med. Div., Army Chem. Center, Md.*

1164. Modification by sodium fluoroacetate (FA) of carotid sinus baroceptor responses to carotid occlusion. M. N. GURUSWAMI (introduced by M. B. CHENOWETH). *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1165. Acetylation of sulfanilamide in fluoroacetate-poisoned rats. LINARES B. JOHNSON* AND MAYNARD B. CHENOWETH. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

1166. Relation of mono-fluoro fatty acids to citrate levels in intact animals. ALEXANDER KANDEL,* LINARES B. JOHNSON* AND MAYNARD B. CHENOWETH. *Dept. of Pharmacology, Univ. of Michigan, Ann Arbor.*

PAPERS READ BY TITLE

1167. Tolerance of a vitamin C—sulfone derivative in man. HAMILTON H. ANDERSON, ALEXANDER N. CONTOPOULOS,* CHARLES NUCHO* AND GREGORY HADDAD.* *American Univ. of Beirut and Hamlin Memorial Sanitorium Hammana, Lebanon.*

1168. Irritant effects of the hygroscopic agent in cigarettes as shown by electroencephalography. T. C. BARNES. *Dept. of Pharmacology, Hahnemann Med. College and Hosp. of Philadelphia, Philadelphia, Pa.*

1169. Effect of lethal doses of digitalis and digitoxin on tissue glutathione and attempts at BAL protection. JULIUS BELFORD AND GERTRUDE LANGE (introduced by CHANDLER MCC. BROOKS). *State Univ. Med. Center, New York City.*

1170. Cross-transfusion in man: the effect on renal excretory products. HOWARD R. BIERMAN, RALPH L. BYRON, JR.,* KEITH H. KELLY,* GRACE SINGER* AND JOYCE SWADER.* *Lab. of Exptl. Oncology, Natl. Insts. of Health, and Div. of Medicine, Univ. of California School of Medicine, San Francisco.*

1171. Inability of coprini to sensitize man to ethyl alcohol. GEORGE P. CHILD. *Dept. of Physiology and Pharmacology, Albany Med. College, Albany, N. Y.*

1172. Inhibitory effects on the feline uterus in vivo of epinephrine, norepinephrine and N-isopropyl norepinephrine. MARY LEE CLARY* AND BRADFORD N. CRAVER. *Research Dept., Div. of Macrobiology, Ciba Pharmaceutical Products, Inc., Summit, N. J.*

1173. Ganglion blocking activity of aliphatic quaternary amines and related alkyl piperidinium salts. DONALD L. COOK AND MARTIN M. WINBURY (introduced by W. E. HAMBOURGER). *Div. of Biological Research, G. D. Searle & Company, Chicago, Ill.*

1174. Serum cholinesterase changes following electro-shock. JOHN EMERSON DAVIS. *Univ. of Arkansas Med. School, Little Rock, Ark.*

1175. Antagonism of ferricyanide to the relaxation of intestinal smooth muscle caused by musculotropic drugs. GEORGE W. EDMONSTON,* PAUL F. EDGAR* AND JAMES C. RICE. *Univ. of Mississippi, University.*

1176. Sedative and toxic effects of several chloral derivatives. J. K. FINNEGAN, P. S. LARSON, H. B. HAAG AND S. G. PAGE, JR. *Dept. of Pharmacology, Med. College of Virginia, Richmond.*

1177. Capacity of brain homogenates from mice infected with Columbia SK and ectromelia viruses to reduce triphenyltetrazolium chloride. JEROME T. FISHGOLD (introduced by WINDSOR C. CUTTING). *Dept. of Pharmacology and Therapeutics, Stanford Univ. School of Medicine, San Francisco, Calif.*

1178. Chronic tolerance studies on a new hydrocholeretic, β-(2,4-dimethoxy-5-cyclohexylbenzoyl) propionic acid (SC-2644). HOMER B. FREESE,* W. E. HAMBOURGER AND D. M. GREEN. *Div. of Biological Research, G. D. Searle & Company, Chicago, Ill.*

1179. Failure of procaine amide (pronestyl) to prevent cyclopropane-epinephrine induced ventricular tachycardia in dogs or spontaneous arrhythmias occurring during cyclopropane anesthesia in humans. BRUNO HAID AND LUCIEN E. MORRIS (introduced by STUART C. CULLEN). *Div. of Anesthesiology, State Univ. of Iowa Hosps., Iowa City.*

1180. Sodium concentration and the action of cocaine and *d*-tubocurarine on the rat diaphragm preparation. C. J. KENSLER AND DONALD NUSSBAUMER.* *Dept. of Pharmacology, Cornell Univ. Med. College, New York City.*

1181. Factors in epinephrine 'reversal'. THEODORE O. KING (introduced by T. KOPPANYI). *Univ. of Wyoming College of Pharmacy, Laramie.*

1182. Adrenochrome redox system. GEORGE B. KOELLE AND JONAS S. FRIEDENWALD.* *Wilmer Inst., Johns Hopkins Univ. and Hosp., Baltimore, Md.*

1183. Detoxification of phytotoxic sera by cortisone and ACTH. DAVID I. MACHT. *Dept. of Pharmacology, Labs. of Sinai Hosp., Baltimore, Md.*

1184. Acute and chronic toxicity of toluidine blue and neutral red. FRANCES STOLARSKY* AND THOMAS J. HALEY. *School of Medicine, Univ. of California, Los Angeles.*

1185. Pharmacological and toxicological observations on antazoline (antistine) hydrochloride. TULLIOUS C. STOUDEMAYER* AND ROBERT A. WOODBURY. *Div. of Pharmacology, Univ. of Tennessee Med. Units, Memphis.*

1186. Effect of convulsant and anticonvulsant agents on the activity of succinic dehydrogenase. CLARA TORDA AND HAROLD G. WOLFF. *New York Hosp.-Cornell Med. Center (Depts. of Medicine (Neurology) and Psychiatry), and Kingsbridge Hosp. (VA), New York City.*

1187. Parenchymal alkaline phosphatase reaction in livers of mice receiving sodium barbital, trional, or urethane. W. LANE WILLIAMS AND RICHARD B. ARONSOHN (introduced by R. N. BIETER). *Dept. of Anatomy, Univ. of Minnesota, Minneapolis.*

AMERICAN SOCIETY FOR EXPERIMENTAL PATHOLOGY

Thirty-sixth Annual Meeting

CLEVELAND, OHIO, APRIL 29–MAY 3, 1951

(An asterisk following an author's name indicates "by invitation")*

Monday Morning, April 30, 9:00 a.m.

Kidney

MONDAY, 9:00 A.M.—SOUTH HALL, ROOM B

Chairman: John G. Kidd

1188. Inhibition of 17-Ketosteroid excretion by p-(di-n-propyl sulfamyl)-benzoic acid ('Benemid'). L. I. GARDNER, J. F. CRIGLER AND C. J. MIGEON (introduced by E. A. PARK). *Dept. of Pediatrics, Johns Hopkins Univ. School of Medicine and Harriet Lane Home of Johns Hopkins Hosp., Baltimore, Md.*

1189. Selective spastic occlusion of renal vascular system produced with staphylococcal toxin. A. THAL (introduced by J. G. KIDD). *Dept. of Pathology, Cornell Univ. Med. College, New York City.*

1190. Effect of ACTH, cortisone and adrenalectomy on renal disease produced by anti-kidney serum in young rats. C. W. FORMAN AND W. E. EHRICH. *Cornell Univ. Med. College, New York City, and Graduate School of Medicine of Univ. of Pennsylvania, Philadelphia.*

1191. Renal and other lesions in dogs and rats from intramuscular injection of neomycin. A. A. NELSON, J. L. RADOMSKI* AND E. C. HAGAN.* *Div. of Pharmacology, Food and Drug Administration, Federal Security Agency, Washington, D. C.*

1192. A consideration of some variables other than hemoglobin dosage in production of hemoglobinuric nephrosis. J. J. LALICH. *Dept. of Pathology, Univ. of Wisconsin Med. School, Madison.*

1193. Early development of anatomical and blood chemistry changes in nephrotoxic renal disease in rats. W. HEYMANN AND D. B. HACKEL (introduced by T. D. KINNEY). *Depts. of Pathology and Pediatrics, Western Reserve Univ. School of Medicine and Dept. of Pathology, Cleveland City Hosp., Cleveland, Ohio.*

1194. Latent period of renal disease in rats induced by nephrotoxic duck serum. D. B. HACKEL AND W. HEYMANN (introduced by T. D. KINNEY). *Depts. of Pathology and Pediatrics, Western Reserve Univ. School of Medicine and Dept. of Pathology, Cleveland City Hosp., Cleveland, Ohio.*

1195. Localization of antigen responsible for production of nephrotoxic serum within isolated renal glomerulus. S. A. GREENSPON* AND C. A. KRAKOWER. *Univ. of Illinois College of Medicine, Chicago.*

Coagulation

MONDAY, 9:00 A.M.—SOUTH HALL, ROOM C

Chairman: K. M. Brinkhous

1196. Human plasma fibrinogen levels in various pathological states. W. B. SMITH, L. ROSENFELD AND G. Y. SHINOWARA (introduced by E. VON HAAM). *Dept. of Pathology, Ohio State Univ., Columbus.*

1197. Limiting factors in conversion of prothrombin to thrombin. C. A. OWEN, JR.* AND J. L. BOLLMAN. *Div. of Clin. Labs., Mayo Clinic and Div. of Exptl. Medicine, Mayo Fndn., Rochester, Minn.*

1198. Relationship of complement to prothrombin activation. L. A. STERNBERGER AND F. MALTANER (introduced by G. DALLDORF). *Div. of Labs. and Research, New York State Dept. of Health, Albany.*

1199. Antihemophilic factor: Levels in canine and human plasmas and following liver injury and dicumarol. J. B. GRAHAM*, D. L. COLLINS, JR.*, I. D. GODWIN*, AND K. M. BRINKHOUS. *Dept. of Pathology, Univ. of North Carolina, Chapel Hill.*

1200. Species specificity of thromboplastin; role of the co-thromboplastin reaction. F. D. MANN AND M. HURN.* *Div. of Clin. Labs., Mayo Clinic, Rochester, Minn.*

1201. In vivo and in vitro effects of a lipid inhibitor of blood clotting. R. W. COON, J. E. FLYNN AND P. S. VASSAR (introduced by

H. P. SMITH). *Dept. of Pathology, Columbia Univ. College of Physicians and Surgeons, New York City.*

1202. A blood coagulation defect induced in rabbits by papain solutions injected intravenously. A. KELLNER, T. ROBERTSON* AND H. O. MOTT.* *Dept. of Pathology, New York Hosp.-Cornell Med. Center, New York City.*

1203. Isolation and characterization of a hemolytic substance from commercial trypsin. J. J. BUCKLEY AND F. MALTANER (introduced by G. DALLDORF). *Div. of Labs. and Research, New York State Dept. of Health, Sloan-Kettering Inst. for Cancer Research, New York City.*

1204. Coagulation factors in ultraviolet irradiated normal human plasma. G. Y. SHINOWARA. *Dept. of Pathology, Ohio State Univ., Columbus.* (Biochem.)

1205. Effects of beta-propiolactone on blood components. B. E. SANDERS AND M. MAYKUT (introduced by G. H. MANGUN). *Dept. of Labs., Henry Ford Hosp., Detroit, Mich.* (Biochem.)

Monday Afternoon, April 30, 1:15 p.m.

Techniques in Experimental Pathology

MONDAY, 1:15 P.M.—SOUTH HALL, ROOM C

Chairman: George M. Hass

1206. Crystallization of Pyrexin, the pyrogenic factor of inflammatory exudates. V. MENKIN. *Agnes Barr Chase Fndn. for Cancer Research, Temple Univ. School of Medicine, Philadelphia, Pa.*

1207. Effects of carbon tetrachloride and starvation on cytoplasmic histochemistry of parenchymal cells of mouse livers. W. L. WILLIAMS AND M. A. GREGORY.* *Dept. of Anatomy, Univ. of Minnesota, Minneapolis.*

1208. Further studies on chemical basis of periodic acid-Schiff's reagent (PAS) method. J. F. A. McMANUS AND C. HOCH-LIGETTI.* *Dept. of Pathology, Univ. of Virginia School of Medicine, Charlottesville.*

1209. An improved historadiographic apparatus and its application. J. J. CLEMMONS,* M. H. APRISON* AND D. M. ANGEVINE. *Dept. of Pathology, Univ. of Wisconsin Med. School, Madison.*

1210. Electron microscope investigation of transverse and longitudinal sections of muscle. C. M. M. Cannan (introduced by C. P. RHOADS). *Sloan-Kettering Inst., New York City.*

1211. Electron microscopic study of elastic tissue and collagen treated with formic acid. J. P. AYER,* G. M. HASS AND E. C. PHILPOTT.* *Rush Dept. of Pathology, Presbyterian Hosp. and Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago.*

1212. Electron microscopy of ATP-induced contraction of skeletal myofibrils. C. A. ASHLEY,* K. R. PORTER,* D. E. PHILPOTT* AND G. M. HASS. *Rush Dept. of Pathology, Presbyterian Hosp., Dept. of Physiology, Univ. of Illinois College of Medicine, Chicago, and Rockefeller Inst. for Med. Research, New York City.*

1213. Spectrographic techniques for quantitative analysis of human organs. E. YEAGER,* I. L. SMITH,* N. KAUFMAN,* F. HOVORKA* AND T. D. KINNEY. *Depts. of Pathology and Chemistry, Western Reserve Univ., and Dept. of Pathology, Cleveland City Hosp., Cleveland, Ohio.*

1214. Excretion of P^{32} in bile of rabbits following intravenous administration. F. B. MORELAND* AND B. HALPERT. *VA Hosp. and Depts. of Biochemistry and Pathology, Baylor Univ. College of Medicine, Houston, Tex.*

Bacteriology and Immunology

MONDAY, 1:15 P.M.—SOUTH HALL, ROOM B

Chairman: Russell L. Holman

1215. Susceptibility and resistance to superinfection in brucellosis. A. D. POLLACK, E. H. KELLY, A. N. GORELICK, W. BRAUN AND J. VICTOR. *Biological Dept., Chemical Corps, Camp Detrick, Frederick, Md.*

1216. Mechanism of mucin activity. L. SPERO, B. A. WAISBREN, E. J. SCHANTZ AND J. VICTOR. *Biological Dept., Chemical Corps, Camp Detrick, Frederick, Md.*

1217. Virucidal and bactericidal properties of β-propiolactone. F. W. HARTMAN, S. L. PIEPES AND A. M. WALLBANK.* *Dept. of Labs., Henry Ford Hosp., Detroit, Mich.*

1218. Beta-propiolactone: its toxicity, degradation products and comparison with nitrogen mustard. A. R. KELLY* AND F. W. HARTMAN. *Dept. of Labs., Henry Ford Hosp., Detroit, Mich.*

1219. State of hypersensitivity induced in rabbits to foreign serum proteins in Freund's adjuvant. S. D. KOBERNICK,* J. A. DEVRIES* AND R. H. MORE. *Depts. of Pathology and*

Bacteriology, McGill Univ., Montreal, Quebec, Canada.

1220. Experimental production of rheumatic-like cardiac lesions in the guinea pig. R. S. JONES (introduced by D. H. SPRUNT). *Div. of Pathology and Bacteriology, Univ. of Tennessee College of Medicine, Memphis.*

1221. Concentration of aureomycin in the intestine. L. V. MCVAY,* L. EVANS* AND D. H. SPRUNT. *Div. of Medicine, Pathology and Bacteriology, Univ. of Tennessee College of Medicine and John Gaston Hosp., Memphis.*

1222. Hematologic changes associated with anamnestic response in man. S. PARISER, R. A. ZUCKER AND L. M. MEYER (introduced by I. GRAEF). *Third (N. Y. U.) Med. Service, Goldwater Memorial Hosp., Welfare Island, New York City.*

1223. Nonhemolytic streptococci in relation to a milk-borne epidemic of influenza diagnostic cutaneous tests and specific treatment with thermal antibody. E. C. ROSENOW. *Bacteriological Research, Longview Hosp., Cincinnati, Ohio.*

Pathology Society Business Meeting

MONDAY, 4:00 P.M.—SOUTH HALL, ROOM B

Joint Session of the Federation

MONDAY, 8:00 P.M.—MUSIC HALL

Program on page 428

Mixer—Informal Reception

MONDAY, 10:00 P.M.—EXHIBITION HALL

Tuesday Morning, May 1, 9:00 a.m.

Arteriosclerosis

TUESDAY, 9:00 A.M.—SOUTH HALL, ROOM C

Chairman: James F. Rinehart

1224. Reaction of pulmonary artery to minute emboli of whole rabbit blood. R. B. JENNINGS,* W. B. WARTMAN AND B. HUDSON.* *Dept. of Pathology, Northwestern Univ. Med. School, Chicago, Ill.*

1225. Carditis and pulmonary arteritis in monkeys. T. R. HAMILTON AND J. T. SYVERTON. *Dept. of Bacteriology and Immunology, Univ. of Minnesota, Minneapolis.*

1226. Analysis of aortic 'arteriosclerosis' in 300 consecutive autopsies. G. PECK,* H. C. MCGILL* AND R. L. HOLMAN. *Depts. of Pathology, Louisiana State Univ. School of Medicine and Charity Hosp. of Louisiana, New Orleans.*

1227. Transfusion transfer of experimental atherosclerosis. J. H. BRAGDON. *Natl. Insts. of Health, Bethesda, Md.*

1228. High fat diet augments 'lipitis' and 'arteritis' due to allylamine. J. H. MCCORMICK*, C. H. LIPPARD* AND R. L. HOLMAN. *Dept. of Pathology, Louisiana State Univ. School of Medicine, New Orleans.*

1229. Effect of induced intimal proliferation on local deposition of lipids in arteries of rabbits with hypercholesterolemia. F. B. KELLY, JR.*, C. B. TAYLOR*, G. M. HASS AND J. M. CRAIG*. *Rush Dept. of Pathology, Presbyterian Hosp. in affiliation with Univ. of Illinois College of Medicine, Chicago.*

1230. Protective influence of pregnancy on experimental necrotizing arteritis in dogs. C. K. JONES* AND R. L. HOLMAN. *Dept. of Pathology, Louisiana State Univ. School of Medicine, New Orleans.*

1231. Effect of altered lipid metabolism on experimental lesions of coronary arteries. G. I. DESUTO-NAGY AND L. L. WATERS (introduced by H. S. N. GREENE). *Dept. of Pathology, Yale Univ. School of Medicine, New Haven, Conn.*

Tumors

TUESDAY, 9:00 A.M.—SOUTH HALL, ROOM B

Chairman: Harold L. Stewart

1232. Effect of aureomycin on transplanted tumors. B. SOKOLOFF AND W. H. EDDY, (introduced by L. LOEB). *Southern Bio-Research Lab., Florida Southern College, Lakeland.*

1233. Effect of flavonoids on transplanted tumors. W. H. EDDY, B. SOKOLOFF, J. WILLIAMS AND L. SCIORTINO (introduced by L. LOEB). *Southern Bio-Research Lab., Florida Southern College, Lakeland.*

1234. Production of leukemia and cancer in adult rats fed paradimethylamino-azobenzine (butter yellow) shortly after weaning. B. STEINBERG AND M. SPOONER.* *Toledo Hosp. Inst. of Med. Research, Toledo, Ohio.*

1235. A histologic study of neoplasms after heterologous transplantations. A. TOWBIN (introduced by E. VON HAAM.) *Dept. of Pathology, Ohio State Univ., Columbus.*

1236. Further purification of embryonic growth-promoting substance for chick fibroblasts. G. M. HASS, A. SCHWEITZER* AND H. BOSCIA.* *Rush Dept. of Pathology, Presbyterian Hosp. in affiliation with Univ. of Illinois College of Medicine, Chicago.*

1237. Use of wild house mice in studies on mammary tumor agent. H. B. ANDERVONT. *Natl. Cancer Inst., Bethesda, Md.*

1238. Pathological study of skin carcinogenesis in albino rat. P. CAMBEL (introduced by J. FURTH). *Cancer Research Lab., Univ. of Florida, Gainesville.*

1239. Distribution of radioactive colloidal gold following intrapulmonary administration. G. R. MENEELY, R. C. KORY,* S. H. AUERBACH* AND P. F. HAHN. *Radioisotope Unit, Thayer VA Hosp., Dept. of Medicine and Pathology, Vanderbilt Univ. School of Medicine and Cancer Research Labs., Meharry Med. College, Nashville, Tenn.*

1240. Some mathematical relationships of possible significance in the study of human leukemia. P. F. HAHN AND N. WIENER. *Cancer Research Labs., Meharry Med. College, and Dept. of Mathematics, Massachusetts Inst. of Technology, Cambridge.*

Tuesday Afternoon, May 1, 1:15 p.m.

Viruses and Tumors

TUESDAY, 1:15 P.M.—SOUTH HALL, ROOM B

Chairman: William M. Hale

1241. Mechanism of Columbia SK virus hemagglutination. B. HORVATH* AND C. W. JUNGEBLUT. *Dept. of Bacteriology, Columbia Univ. College of Physicians and Surgeons, New York City.*

1242. Selective destructive effect of eastern equine encephalomyelitis virus on rat and human fibroblast cell lines. F. B. BANG AND G. O. GEY. *Depts. of Medicine and Surgery, Johns Hopkins Univ. School of Medicine, Baltimore, Md.*

1243. Effect of temperature and para-aminobenzoic acid on growth and oxygen uptake of embryonate eggs. D. GREIFF* AND H. PINKERTON. *Depts. of Biology and Pathology, St. Louis Univ., St. Louis, Mo.*

1244. Some virucidal agents and their chemical and pharmacological properties. G. H. MANGUN, A. R. KELLY,* B. E. SANDERS,* S. L. PIEPES,* A. M. WALLBANK* AND F. W. HARTMAN.* *Dept. of Labs., Henry Ford Hosp., Detroit, Mich.* (Biochem.)

1245. A preliminary report on effect of 2,6-diaminopurine on multiplication of virus of Russian encephalitis. C. FRIEND (introduced by C. P. RHOADS). *Sloan-Kettering Inst., New York City.*

1246. Effect of 2,6-diaminopurine on infection of Russian encephalitis in the mouse. A. E. MOORE AND C. FRIEND (introduced by C. P. RHOADS). *Sloan-Kettering Inst., New York City.*

1247. Activation of trypanosomiasis in rhesus monkeys by cortisone. A. WOLF, E. A. KABAT, A. E. BEZER AND J. R. C. FONSECA. *Depts. of Pathology, Neurology, Bacteriology, and Public Health, Columbia Univ. College of Physicians and Surgeons, and Neurological Inst., New York City.*

1248. Inhibition of tumor I of chickens by simultaneous infection with malaria parasite Plasmodium Lephuras. W. TRAGER. *Rockefeller Inst., New York City.*

1249. Tumor immunity following regression of lymphosarcoma implants during riboflavin deficiency. H. C. STOERK, T. C. BIELINSKI* AND T. V. BUDZILOVICH.* *Merck Inst. for Therapeutic Research, Rahway, N. J.*

Federation Discussion Meeting

Open to Members of All Societies

TUESDAY, 4:00 P.M.—MUSIC HALL

Pathology Society Dinner

TUESDAY, 6:00 P.M.—HOTEL STATLER

Wednesday Morning, May 2, 9:00 a.m.

Hormones

WEDNESDAY, 9:00 A.M.—SOUTH HALL, ROOM B

Chairman: D. Murray Angevine

1250. Toxic materials extracted from streptococcal skin lesions. W. J. CROMARTIE AND D. W. WATSON (introduced by J. T. SYVERTON). *Dept. of Bacteriology and Immunology, Univ. of Minnesota, Minneapolis.*

1251. Ascorbic acid intake and adrenal cortex. R. C. STEPTO, C. L. PIRANI AND C. F. CONSOLAZIO (introduced by G. A. BENNETT) *Army Med. Nutrition Lab. and Dept. of Pathology, Univ. of Illinois College of Medicine, Chicago.*

1252. Effect of alarm reaction upon lymphocytes and plasma cells. W. E. EHRICH, J. SEIFTER AND G. H. HUDYMA. *Graduate School of Medicine, Univ. of Pennsylvania, Philadelphia General Hosp. and Wyeth Inst. of Applied Biochemistry Philadelphia, Pa.*

1253. Action of cortisone or its derivatives on an actively induced arthus phenomenon in rabbits. F. W. TILLOTSON (introduced by A. R. MORITZ). *Inst. of Pathology, Western Reserve Univ., Cleveland, Ohio.*

1254. Leukocytic functions in acute inflammation in man as modified by ACTH. J. W. REBUCK, R. W. SMITH* AND R. R. MARGULIS.* *Henry Ford Hosp., Detroit, Mich.*

1255. Effects of cortisone on normal and ascorbic acid deficient guinea pigs. C. L. PIRANI, R. C. STEPTO AND K. SUTHERLAND (introduced by G. A. BENNETT). *Army Med. Nutrition Lab. and Dept. of Pathology, Univ. of Illinois College of Medicine, Chicago.*

1256. Effects of cortisone administered subcutaneously and orally to dogs. C. W. MUSHETT, C. C. PORTER* AND R. H. SILBER. *Merck Inst. for Therapeutic Research, Rahway, N. J.*

1257. Non-lipid, non-carbohydrate vacuolated cells in the healing skin wounds of cortisone-treated rats. J. F. A. MCMANUS, J. R. CASH, J. P. CARTER, E. M. ALRICH AND E. P. LEHMAN.* *Depts. of Pathology and Surgery, Univ. of Virginia School of Medicine and Hosp., Charlottesville.*

1258. Site of α-estradiol inhibition of tissue respiration. M. A. GUIDRY,* A. SEGALOFF AND A. M. ALTSCHUL.* *Depts. of Chemistry and Medicine, Tulane Univ., New Orleans, and Endocrine Research Lab., Alton Ochsner Med. Fndn., New Orleans, La.*

Liver

WEDNESDAY, 9:00 A.M.—SOUTH HALL, ROOM C

Chairman: F. S. Robscheit-Robbins

1259. Effect of vitamin B_{12} and aureomycin upon toxicity of chloroform to regenerating liver. B. FISHER* AND H. M. VARS (introduced by I. S. RAVDIN). *Harrison Dept. of Surgical Research, Schools of Medicine, Univ. of Pennsylvania, Philadelphia.*

1260. Protective action of thyroid feeding and thyroxin injection against liver damage by carbon tetrachloride in mice. J. W. WILSON. *Biological Lab., Brown Univ., Providence, R. I.*

1261. Enzymatic activity of liver and serum after experimental liver damage in rats. D. KOCH-WESER,* E. FARBER,* J. DE LA HUERGA,* P. B. SZANTO* AND H. POPPER. *Hektoen Inst. of Cook County Hosp. and Northwestern Univ., Chicago, Ill.*

1262. Cholesterol esters of lymph in experimental liver injury. J. L. BOLLMAN AND EUNICE V. FLOCK. *Div. of Exptl. Medicine, Mayo Fndn., Rochester, Minn.*

1263. Influence of portal circulation on restoration of liver after partial hepatectomy. J. H. GRINDLAY AND J. L. BOLLMAN.* *Div. of Exptl. Medicine, Mayo Fndn., Rochester, Minn.* (Physiology)

1264. Relation of plasma to biliary phospholipids. F. SCHAFFNER,* M. MEITUS,* J. DE LA HUERGA,* D. F. MAGEE,* F. STEIGMANN* AND H. POPPER. *Hektoen Inst. of Cook County Hosp. and Dept. of Clin. Science, Univ. of Illinois, Chicago.*

1265. Fatty cysts of liver. I. Discharge of intracystic lipid into bile canaliculi and sinusoids in choline-deficient rats: etiological role of ruptured cysts in cirrhosis. W. S. HARTROFT. *Banting and Best Depts. of Med. Research, Univ. of Toronto, Toronto, Ontario, Canada.*

1266. Fatty cysts of liver. II. Reabsorption of intracystic lipid in choline-deficient rats restored to normal diets. E. A. SELLERS AND W. S. HARTROFT. *Banting and Best Dept. of Med. Research, Univ. of Toronto, Toronto, Ontario, Canada.*

1267. Influence of intestinal bacteria upon choline

in normals and patients with hepatobiliary diseases. J. DE LA HUERGA* AND H. POPPER. *Hektoen Inst. for Med. Research of Cook County Hosp., Chicago, Ill.*

1268. Inter-relationship of copper and choline when added to a choline deficient diet. N. KAUFMAN,* J. A. CARTAYA,* D. M. HEGSTED AND T. D. KINNEY. *Dept. of Nutrition, Harvard School of Public Health, Boston, Mass., and Depts. of Pathology of Western Reserve Univ. School of Medicine and Cleveland City Hosp., Cleveland, Ohio.*

Wednesday Afternoon, May 2, 1:15 p.m.

Proteins

WEDNESDAY, 1:15 P.M.—SOUTH HALL, ROOM B

Chairman: Douglas H. Sprunt

1269. Expulsion factor for leukocytes in bovine plasma. A. A. DIETZ,* B. STEINBERG AND R. A. MARTIN.* *Toledo Hosp. Inst. of Med. Research, Toledo, Ohio.*

1270. Action of albumin on living cells of blood forming organs. E. H. TOMPKINS. *Cancer Research Inst., New England Deaconess Hosp., Boston, Mass.*

1271. Effect of plaster cast in tourniquet shock. S. KOLETSKY AND G. E. GUSTAFSON (introduced by A. R. MORITZ). *Inst. of Pathology, Western Reserve Med. School, Cleveland, Ohio.*

1272. Effect of adrenocorticotrophic hormone on amino acid content of blood and urine in normal individuals and patients with rheumatoid arthritis. A. L. Borden,* E. B. WALLRAFF,* E. C. BRODIE,* W. P. HOLBROOK,* D. F. HILL,* C. A. L. STEPHENS, JR.,* R. B. JOHNSON* AND A. R. KEMMERER. *Southwestern Clinic and Research Inst. and Dept. of Nutrition, Univ. of Arizona, Tucson.* (Nutrition.)

1273. Nitrogen metabolism of hogs infected with hog cholera virus. E. REBER,* C. K. WHITEHAIR* AND R. MACVICAR. *Oklahoma Agricultural Experiment Station, Stillwater.* (Biochem.)

1274. Effects of graded acute injuries upon net protein anabolism. R. W. WISSLER, E. P. BENDITT, L. E. FRAZIER,* C. H. STEFFEE AND F. L. JENNINGS.* *Dept. of Pathology, Univ. of Chicago, Chicago, Ill.*

1275. Protein intake and pulmonary tuberculosis in rats and hamsters. H. L. RATCLIFFE. *Penrose Research Lab., Zoological Soc., and Dept. of Pathology, Univ. of Pennsylvania School of Medicine, Philadelphia.*

1276. Erythrocyte life span in small animals. B. A. HARRISON,* E. L. BURWELL* AND C. A. FINCH* (introduced by S. W. LIPPINCOTT). *Dept. of Medicine, Univ. of Washington, Seattle.*

1277. Effect of *p*-dimethylaminoazobenzene on incorporation of labeled cystine into the protein of the subcellular components of rat liver. N. D. LEE,* N. M. MACRAE* AND R. H. WILLIAMS. *Dept. of Medicine, Univ. of Washington School of Medicine, Seattle.*

1278. Relationship between blood plasma proteins in health and in disease. E. E. ECKER AND J. P. FRACKELTON. *Western Reserve Univ., Cleveland, Ohio.*

Pathology Society Business Meeting

WEDNESDAY, 4:00 P.M.—SOUTH HALL ROOM B

READ BY TITLE

1279. Effect of multiple nitrogen mustard treated blood transfusions in animals. A. R. KELLY,* G. H. MANGUN* AND F. W. HARTMAN. *Dept. of Labs., Henry Ford Hosp., Detroit, Mich.*

1280. Vitamin B activity of lard distillate. H. KAUNITZ, C. A. SLANETZ* AND R. E. JOHNSON.* *Depts. of Pathology and Animal Care, Columbia Univ., College of Physicians and Surgeons, New York City.*

AMERICAN INSTITUTE OF NUTRITION

Fifteenth Annual Meeting

CLEVELAND, OHIO, APRIL 29–MAY 3, 1951

(An asterisk following an author's name indicates "by invitation")*

Monday Morning, April 30, 9:00 a.m.

Amino Acids

MONDAY, 9:00 A.M.—EXHIBIT HALL, ROOM A

Chairman: Wendell H. Griffith

1281. Leucine and histidine tolerance in the human. BETTY F. STEELE AND CORINNE B. LE BOBIT (introduced by L. A. MAYNARD). *School of Nutrition and New York State College of Home Economics, Cornell Univ., Ithaca.*

1282. Retention of essential amino acids by the growing chicken. WALTER C. RUSSELL, M. WIGHT TAYLOR AND WILLIAM A. PRICE, JR.* *Dept. of Agricultural Biochemistry, New Jersey Agricultural Exper. Station, Rutgers Univ., State Univ. of New Jersey, New Brunswick.*

1283. Amino acid requirements for maintenance of nitrogen equilibrium in the rat. HELEN CLARK,* PEARL SWANSON AND S. P. YANG.* *Iowa State College, Ames.*

1284. Nitrogen balance studies in rats fed diets with and without added glycine. W. R. TODD AND ELLEN TALMAN.* *Dept. of Biochemistry, Univ. of Oregon Med. School, Portland.*

1285. Nitrogen balance index in the adult rat as affected by diets low in L- and DL-methionine. E. S. NASSET AND JOSEPH T. ANDERSON.* *Dept. of Physiology and Vital Economics, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.*

1286. Supplemental value of cystine and methionine for low protein (casein) diets. HOWARD B. LEWIS AND RUTH S. FAJANS.* *Dept. of Biological Chemistry, Univ. of Michigan, Ann Arbor.*

1287. Relation of dietary glycine and alanine to calcium metabolism. JAMES F. HOGG (introduced by J. P. CHANDLER). *Dept. of Biological Chemistry, Univ. of Michigan, Ann Arbor.*

1288. Comparative absorption of amino acids from the intestine. ALINE UNDERHILL ORTEN, K. KOIZUMI,* C. J. FRANCE* AND CHARLES G. JOHNSTON. *Dept. of Surgery, Wayne Univ. College of Medicine, Detroit, Mich.*

1289. Histidine deficiency and liver enzyme activity. J. N. WILLIAMS, JR. AND JAMES W. BOTHWELL (introduced by C. A. ELVEHJEM). *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

1290. Metabolic effects of specific amino acid deficiencies. L. T. SAMUELS, H. C. GOLDTHORPE* AND T. F. DOUGHERTY.* *Depts. of Biochemistry and Anatomy, Univ. of Utah College of Medicine, Salt Lake City.*

1291. Value of supplementation of protein hydrolysates with the limiting essential amino acids in human nutrition. WILLIAM S. HOFFMAN AND GORDON C. MCNEIL.* *Hektoen Inst. for Med. Research, Cook County Hosp., and Univ. of Illinois College of Medicine, Chicago.* (Biochem.)

1292. Availability of amino acids in cottonseed products. K. A. KUIKEN. *Texas Agricultural and Mechanical College System, College Station, Tex.* (Biochem.)

Monday Afternoon, April 30, 1:15 p.m.

Proteins, Carbohydrates, Lipids

MONDAY, 1:15 P.M.—EXHIBIT HALL, ROOM A

Chairman: Walter C. Russell

1293. Evaluation of nitrogen source materials by an intraperitoneal rat test. AARON ARNOLD AND JESSY R. SHEPHERD.* *Sterling-Winthrop Research Inst., Rensselaer, N. Y.*

1294. Microbiological evaluation of protein quality. I. A colorimetric method for the determination of the growth of *tetrahymena geleii* W in protein suspensions. HAROLD H. WILLIAMS AND MARY E. ANDERSON.* *Dept.*

of Biochemistry and Nutrition, Cornell Univ., Ithaca, N. Y.

1295. Nutritional edema in rats fed diets low in choline and protein. R. W. ENGEL AND H. D. ALEXANDER.* *Dept. of Animal Husbandry and Nutrition, Alabama Polytechnic Inst., Auburn.*

1296. Dietary protein as a lipotropic agent for cholesterol. RUTH OKEY AND ELIZABETH TURNER.* *Dept. of Home Economics, Univ. of California, Berkeley.*

1297. Effects of heat on the nutritive value of protein hydrolysates with dextrose. LACY R. OVERBY* AND DOUGLAS V. FROST. *Abbott Labs., North Chicago, Ill.*

1298. Heat processing and the nutritive value of milk and milk products. LAWRENCE J. SCHROEDER,* MICHAEL IACOBELLIS* AND ARTHUR H. SMITH. *Dept. of Physiological Chemistry, Wayne Univ. College of Medicine, Detroit, Mich.*

1299. Influence of diet on the incidence of alloxan diabetes. RICARDO R. RODRIGUEZ* AND WILLARD A. KREHL. *Yale Nutrition Lab., Dept. of Physiological Chemistry, Yale Univ., New Haven, Conn.*

1300. Occurrence of dermatitis in rats fed diets containing lactose as the sole carbohydrate. R. A. COLLINS,* M. SCHREIBER* AND C. A. ELVEHJEM. *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

1301. Influence of carbohydrate on in vivo fat metabolism. R. P. GEYER AND W. R. WADDELL.* *Dept. of Nutrition, Harvard School of Public Health, Boston, Mass.*

1302. An ultramicromethod for the separation and determination of fatty acids on nylon thread. SHU-HUAI MAI (introduced by F. C. BING). *Dept. of Exptl. Medicine, Northwestern Univ. Med. School, Chicago, Ill.*

1303. Metabolism of deuteriumated lauric acid. MERA R. JETTON,* HENRY SHERMAN* AND ROBERT S. HARRIS. *Nutritional Biochemistry Labs., Massachusetts Inst. of Technology, Cambridge.*

1304. Fat deposition in liver and carcass of the mouse. PAUL F. FENTON AND JEANNE S. MERSHON.* *Dept. of Biology, Brown Univ., Providence, R. I.*

Nutrition Society Business Meeting

MONDAY, 4:00 P.M.—EXHIBIT HALL, ROOM A

Joint Session of the Federation

MONDAY, 8:00 P.M.—MUSIC HALL

Program on page 428

Mixer—Informal Reception

MONDAY, 10:00 P.M.—EXHIBITION HALL

Tuesday Morning, May 1, 9:00 a.m.

Vitamin A; Tocopherol; Ascorbic Acid; Unidentified Factors

TUESDAY, 9:00 A.M.—EXHIBIT HALL, ROOM A

Chairman: Harry J. Deuel, Jr.

1305. Characterization of vitamin A-like 'lard factor.' HANS KAUNITZ AND CHARLES A. SLANETZ* assisted by RUTH ELLEN JOHNSON.* *Depts. of Pathology and Animal Care, College of Physicians and Surgeons, Columbia Univ., New York City.* (Pathol.)

1306. Utilization of injected carotene by vitamin A-deficient rats. J. G. BIERI AND R. P. SANDMAN (introduced by W. H. GRIFFITH). *Dept. of Biochemistry and Nutrition, Univ. of Texas Med. Branch, Galveston.*

1307. A comparison of distribution of carotenoid component in tissues of several species. J. GANGULY* AND H. J. DEUEL, JR. *Dept. of Biochemistry and Nutrition, Univ. of Southern California, Los Angeles.*

1308. Acute vitamin E deficiency in the monkey. JAMES S. DINNING,* LLOYD D. SEAGER AND PAUL L. DAY. *Depts. of Biochemistry and Physiology and Pharmacology, Univ. of Arkansas School of Medicine, Little Rock.*

1309. Effect of storage on tissue tocopherols. MEI YU DJU,* LLOYD J. FILER, JR.* AND KARL E. MASON. *Dept. of Anatomy, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.*

1310. Creatine formation in CCl_4 poisoned rats as influenced by dietary α-tocopherol, vitamin B_{12} and cystine. E. L. HOVE AND J. O. HARDIN.* *Dept. of Animal Husbandry and Nutrition, Alabama Polytechnic Inst., Auburn.*

1311. Effect of vitamin C on pantothenic acid-deficient rats. FLOYD S. DAFT. *Natl. Insts. of Health, Bethesda, Md.*

1312. Weight of adrenal gland as a criterion of ascorbic acid adequacy in nutrition of the guinea pig. W. H. PFANDER* AND H. H. MITCHELL. *Div. of Animal Nutrition, Univ. of Illinois, Urbana.*

1313. Ascorbic acid and cholesterol studies in the rat during food restriction and subsequent protein rehabilitation. RUTH CLAYTON AND ESTHER DA COSTA (introduced by CARL J. KOEHN). *U. S. Army, Med. Nutrition Lab., Chicago, Ill.*

1314. Evidence of two unidentified factors required by the chick. W. W. CRAVENS, H. W. BRUINS,* M. L. SUNDE* AND E. E. SNELL. *Depts. of Poultry Husbandry and Biochemistry, Univ. of Wisconsin, Madison.*

1315. Evidence for an unidentified growth factor for chicks and turkeys in products of animal origin. JAMES MCGINNIS, L. R. BERG, JOEL R. STERN, J. S. CARVER (introduced by L. C. NORRIS). *Poultry Dept., Washington State College, Pullman.*

Tuesday Afternoon, May 1, 1:15 p.m.

Symposium: Utilization of Protein

TUESDAY, 1:15 P.M.—BALLROOM

Chairman: A. H. Smith

1316. Influence of non-protein calories on protein metabolism. PEARL P. SWANSON. *Iowa State College, Ames.*

1317. Extra caloric function of dietary components in relation to protein utilization. ERNEST GEIGER. *Univ. of Southern California Med. School, Los Angeles.*

1318. Interpretation of nitrogen balance data. JAMES B. ALLISON. *Rutgers Univ., New Brunswick, N. J.*

1319. Protein nutrition in surgical patients. JONATHAN E. RHOADS. *Univ. of Pennsylvania School of Medicine, Philadelphia.*

Federation Discussion Meeting

Open to Members of All Societies

TUESDAY 4:00 P.M.—MUSIC HALL

American Institute of Nutrition Dinner

Presentation of Awards

TUESDAY, 6:00 P.M.—HOTEL CLEVELAND

Wednesday Morning, May 2, 9:00 a.m.

Thiamine; Riboflavine; Niacin; Pyridoxine; Pantothenic Acid; Biotin

WEDNESDAY, 9:00 A.M.—EXHIBIT HALL, ROOM A
Chairman: C. A. Elvehjem

1320. Neopyrithiamine—a thiamine antagonist. GLADYS A. EMERSON AND DOROTHEA CASEY.* *Merck Inst. for Therapeutic Research, Rahway, N. J.*

1321. Biological activity of 6,7-diethyl-9 (D-Ribityl) isoalloxazine (diethyl-riboflavin). J. P. LAMBOOY (introduced by E. S. NASSET). *Univ. of Rochester, Dept. of Physiology and Vital Economics, Rochester, N. Y.*

1322. Serum flavin levels in riboflavin deficiencies. KAMDHORN SUVARNAKICH AND PATRICIA STEVENS (introduced by F. J. STARE). *Dept. of Nutrition, Harvard School of Public Health, Boston, Mass.*

1323. Sudden death in riboflavin deficient dogs. GEORGE V. MANN AND ANNE MCNALLY (introduced by F. J. STARE). *Dept. of Nutrition, Harvard School of Public Health, Boston, Mass.*

1324. Effects of riboflavin and pantothenic acid on the conjugation and detoxification of 2-aminofluorene in the dog. ARTHUR W. WASE* AND JAMES B. ALLISON. *Bureau of Biological Research, Rutgers Univ., New Brunswick, N. J.*

1325. Niacin depletion and requirement in man. GRACE A. GOLDSMITH, HERBERT P. SARETT, U. D. REGISTER* AND JANIS GIBBENS.* *Nutrition Research Lab., Tulane Univ. School of Medicine, New Orleans, La.*

1326. Function of nicotinic acid in protein metabolism. G. FRAENKEL. *Dept. of Entomology, Univ. of Illinois, Urbana.*

1327. Effect of aureomycin on the growth response of rats to various forms of vitamin B_6. HELLEN M. LINKSWILER,* C. A. BAUMANN, AND E. E. SNELL. *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

1328. Effect of pantothenic acid deficiency on skin copper. JAMES M. HUNDLEY AND ROBERT B. ING.* *Natl. Insts. of Health, Bethesda, Md.*

1329. Large scale preparation of coenzyme A concentrates. HARVEY HIGGINS,* R. E. HANDSCHUMACHER,* D. A. BUYSKE,* L. J. TEPLY,* G. C. MUELLER,* V. H. CHELDELIN, T. E. KING* AND F. M. STRONG. *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

1330. Utilization of *d*-biotinol by the rat and human. L. DREKTER,* J. SCHEINER,* E. DE RITTER* AND S. H. RUBIN. *Nutrition Labs., Hoffmann-La Roche Inc., Nutley, N. J.*

Wednesday Afternoon, May 2, 1:15 p.m.

Folic Acid; Vitamin B_{12}

WEDNESDAY, 1:15 P.M.—EXHIBIT HALL, ROOM A
Chairman: Paul L. Day

1331. Folic acid metabolism in normal male subjects. DORIS JOHNSON* AND HELEN T. PARSONS. *Dept. of Home Economics, Univ. of Wisconsin, Madison.*

1332. Blood dyscrasias in rats resulting from feeding iron salts and their correction by folic acid. ERNEST G. MCDANIEL* AND FLOYD S. DAFT. *Natl. Insts. of Health, Bethesda, Md.*

1333. Effect of aureomycin on the folic acid-citrovorum factor relation in the rat. KLAUS SCHWARZ (introduced by W. H. SEBRELL, JR.). *Natl. Insts. of Health, Bethesda, Md.*

1334. Folic acid, crystalline vitamin B_{12} and penicillin in reproduction in rats. L. R. RICHARDSON AND E. L. RUSSELL.* *Texas Agricultural Exper. Station, College Station.*

1335. Effect of vitamin B_{12} and folic acid on glycine toxicity in the chick. L. J. MACHLIN,* C. A. DENTON* AND H. R. BIRD. *Bureau of Animal Industry, U. S. Dept. of Agriculture, Beltsville, Md.*

1336. Uptake of radioactive vitamin B_{12} by bacteria in single and mixed cultures. R. L. DAVIS,* L. L. LAYTON* AND BACON F. CHOW. *Dept. of Biochemistry, School of Hygiene and Public Health, Johns Hopkins Univ., Baltimore, Md.*

1337. Determination of vitamin B_{12} in animal tissues. B. S. SCHWEIGERT, HAROLD E. SCHEID* AND MONA M. MARQUETTE.* *Div. of Biochemistry and Nutrition, American Meat Inst. Fndn. and Dept. of Biochemistry, Univ. of Chicago, Chicago, Ill.*

1338. Influence of vitamin B_{12} and folacin on synthesis of choline and methionine by the rat in vivo and in vitro. A. E. SCHAEFER, J. L. KNOWLES* AND W. D. SALMON. *Dept. of Animal Husbandry and Nutrition, Alabama Polytechnic Inst., Auburn.*

1339. Interrelations between choline and vitamin B_{12} in the mouse. JOHN J. TRAVERS* AND LEOPOLD R. CERECEDO. *Dept. of Biochemistry, Fordham Univ., New York City.*

1340. Vitamin B_{12}, methionine, choline and related substances as growth factors for chicks. THOMAS H. JUKES AND E. L. ROBERT STOKSTAD. *Lederle Labs. Div., American Cyanamid Company, Pearl River, N. Y.*

1341. Further studies on vitamin B_{12} in growth, reproduction, and lactation. BARNETT SURE. *Dept. of Agricultural Chemistry, Univ. of Arkansas, Fayetteville.*

1342. Effect of 5,6-dimethylbenzimidazole and related compounds on the growth of *L. lactis* Dorner. DAVID HENDLIN AND MARGARET H. SOARS (introduced by GLADYS A. EMERSON). *Merck & Company, Inc., Rahway, N. J.*

Nutrition Society Business Meeting

WEDNESDAY, 4:00 P.M.—EXHIBIT HALL, ROOM A

Thursday Morning, May 3, 9:00 a.m.

General

THURSDAY, 9:00 A.M.—SOUTH HALL, ROOM B

Chairman: Grace A. Goldsmith

1343. Relation between flavonoids and adrenal cortex activity. WALTER H. EDDY AND BORIS SOKOLOFF.* *Southern Bio-Research Lab., Florida Southern College, Lakeland.*

1344. Effect of diet composition and activity on food intake and body composition. JOSEPH J. VITALE,* JEAN MAYER* AND D. MARK HEGSTED. *Dept. of Nutrition, Harvard School of Public Health, Boston, Mass.*

1345. Mechanism of the regulation of food intake. J. MAYER AND M. W. BATES (introduced by F. J. STARE). *Dept. of Nutrition, Harvard School of Public Health, Boston, Mass.*

1346. Reactions of European and Indian cattle to wide temperature changes. SAMUEL BRODY, A. C. RAGSDALE,* H. H. KIBLER* AND C. R. BLINCOE.* *Dept. of Dairy Husbandry, Univ. of Missouri Agricultural Exper. Station, Columbia.* H. J. THOMPSON AND D. M. WORSTELL.* *BPISAE, U. S. Dept. of Agriculture.*

1347. Chemical and physical properties of the guinea pig antistiffness factor. HARRIS ROSENKRANTZ,* ADE T. MILHORAT, ANNE E. MILMAN* AND MILTON FARBER.* *Depts. of Psychiatry and Medicine, Cornell Univ. Med. College, Russell Sage Inst. of Pathology, New York Hosp., New York City.*

1348. Serum cholinesterase of the male albino rat during food restriction and subsequent protein rehabilitation. ESTHER DA COSTA AND RUTH CLAYTON (introduced by CARL J. KOEHN). *U. S. Army, Med. Nutrition Lab., Chicago, Ill.*

1349. Effect of dietary carbohydrate on amebic infections in the guinea pig. D. JANE TAYLOR AND JOSEPH GREENBERG (introduced by JAMES M. HUNDLEY). *Natl. Insts. of Health, Bethesda, Md.*

1350. Effect of basal diets on the response of rats to certain dietary non-ionic surface active agents. B. F. CHOW, C. T. LING,* L. BARROWS* AND J. M. BURNETT.* *Dept. of Biochemistry, School of Hygiene and Public Health, and Dept. of Pathology, Johns Hopkins Med. School, Baltimore, Md.*

1351. Growth of rats fed heated or raw soybean oil meal supplemented with commercial trypsin. RAYMOND BORCHERS (introduced by C. P. BERG). *Dept. of Agricultural Chemistry, Univ. of Nebraska, Lincoln.*

1352. Magnesium-potassium antagonism as it affects respiration and paralysis. SUSAN GOWER SMITH. *Duke Univ. School of Medicine, Durham, N. C.*

1353. Influence of protein and choline on copper absorption. PHILIP L. WHITE,* D. MARK HEGSTED AND J. MAYER.* *Dept. of Nutrition, Harvard School of Public Health, Boston, Mass.*

1354. Oxygen consumption of the rat during partial inanition. CHARLES W. CRAVEN (introduced by H. I. CHINN). *Dept. of Pharmacology and Biochemistry, USAF School of Aviation Medicine, Randolph Field, Tex.* (Physiol.)

Thursday Afternoon, May 3, 1:15 p.m.

Antibiotics; General

THURSDAY, 1:15 P.M.—SOUTH HALL, ROOM B

Chairman: W. J. Darby

1355. Contrasting effects of antibiotics in diets low in vitamin A or in members of the vitamin B complex. R. W. SWICK,* HWA LIH* AND C. A. BAUMANN. *Dept. of Biochemistry, Univ. of Wisconsin, Madison.*

1356. Growth-promoting activities of antibiotics and yeast cultures for chicks and turkey poults. F. H. KRATZER, C. R. GRAU, MORTIMER P. STARR* AND D. M. REYNOLDS.* *Div. of Poultry Husbandry and Bacteriology, College of Agriculture, Univ. of California, Davis and Berkeley.*

1357. Effect of penicillin on growth, egg production and hatchability. J. R. COUCH, J. F. ELAM* AND L. L. GEE.* *Texas Agricultural Exper. Station, College Station, Tex.*

1358. Growth effect of various antibiotics on baby pigs fed synthetic rations. R. C. WAHLSTROM* AND B. CONNOR JOHNSON. *Div. of Animal Nutrition, Univ. of Illinois, Urbana.*

1359. Effect of the time factor and calorie level on nitrogen utilization of young women. RUTH M. LEVERTON, MARY R. GRAM* AND MARILYN CHALOUPKA.* *Human Nutrition*

Lab., Agricultural Exper. Station, Lincoln, Nebr.

1360. Retention of nitrogen by 13-year-old girls on two levels of intake. GLADYS DERBY,* DORETTA SCHLAPHOFF* AND FRANCES A. JOHNSTON. *New York State College of Home Economics, Cornell Univ., Ithaca.*

1361. Analysis of diet records. M. F. TRULSON* AND F. J. STARE. *Dept. of Nutrition, Harvard School of Public Health, Boston, Mass.*

1362. Nutrition and alcoholism. E. O'MALLEY,* V. HEGGIE,* M. TRULSON,* R. FLEMING* AND F. J. STARE. *Dept. of Nutrition, Harvard School of Public Health and Alcoholic Clinic, Peter Bent Brigham Hosp., Boston, Mass.*

1363. Nutritional status of selected population groups in Oregon as determined by food habits studies and biochemical tests on the blood. CLARA A. STORVICK, MILICENT L. HATHAWAY, RUTH M. NITCHALS,* BERNICE SCHAAD,* RUTH E. COFFEY* AND MARY B. DEARDORFF.* *Nutrition Research Lab., Home Economics Exper. Station, Oregon State College, Corvallis, and Bureau of Human Nutrition and Home Economics, U. S. Dept. of Agriculture and U. S. Public Health Service.*

1364. Iron absorption by women: Comparison of three ferrous salts. MARY R. GRAM* AND RUTH M. LEVERTON. *Human Nutrition Lab., Agricultural Exper. Station, Lincoln, Nebr.*

1365. Serum iron and hemoglobin values of 276 healthy women. MARILYN CHALOUPKA* AND RUTH M. LEVERTON. *Human Nutrition Lab., Agricultural Exper. Station, Lincoln, Nebr.*

1366. Absorption of iron from spinach by 6 young women, and the effect of beef upon absorption. THELMA J. MCMILLAN* AND FRANCES A. JOHNSTON. *New York State College of Home Economics, Cornell Univ., Ithaca.*

PAPERS READ BY TITLE

1367. Tocopherols in the utilization of carotene. AGNES FAY MORGAN AND JOAN W. HEBERT.* *Dept. of Home Economics, Univ. of California, Berkeley.*

1368. Corticosteroid determination with blue tetrazolium BT. CHIADAO CHEN AND HOWARD E. TEWELL, JR. (introduced by F. C. BING). *Dept. of Exptl. Medicine, Northwestern Univ. Med. School, Chicago, Ill.*

1369. Relation of 'steatitis' or 'yellow fat' in mink to dietary fats and inadequacy of vitamin E. KARL E. MASON AND G. R. HARTSOUGH.* *Dept. of Anatomy, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y., and Associated Fur Farms, New Holstein, Wis.*

1370. Effects of feeding unsaturated fatty acids to immature rats with and without tocopherols. RUTH E. RUMERY (introduced by KARL E. MASON). *Dept. of Anatomy, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y.*

THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS

Thirty-fifth Annual Meeting

CLEVELAND, OHIO, APRIL 29–MAY 3, 1951

(An asterisk following an author's name indicates "by invitation")*

Monday Morning, April 30, 9:00 a.m.

General Immunology

MONDAY, 9:00 A.M.—SOUTH HALL, ROOM A

1371. Chemical and immunological studies on the purification of Vi antigen from *Escherichia coli* 5396/38. MAURICE LANDY,* MARION WEBSTER,* MONROE E. FREEMAN* AND H. C. BATSON. *Biological Products Div. and Dept. of Biochemistry, Army Med. Serv. Grad. School, Washington, D. C.*

1372. Production of cytotogic nephritis in the dog by specific antiplacenta serum. BEATRICE CARRIER SEEGAL, MARGO WOLF HASSON,* EMILY NICHOLS LOEB* AND ABBIE I. KNOWLTON.* *Depts. of Bacteriology and Medicine, Columbia Univ., College of Physicians and Surgeons, New York City.*

1373. Immunological specificities and cross reaction in the vascular beds of liver, kidney, and lung. DAVID PRESSMAN AND BEILA SHERMAN.* *Sloan-Kettering Inst. for Cancer Research, New York City.*

1374. Universal serologic reactions of rabbits injected with tissue lipids. REUBEN L. KAHN, HELENE PETRENCO.* *Univ. Hosp., Univ. of Michigan, Ann Arbor.*

1375. Universal serologic reactions of rabbits injected with Freund's adjuvants. ALBERT H. WHEELER, REUBEN L. KAHN AND ELLA M. BRANDON.* *Univ. Hosp., Univ. of Michigan, Ann Arbor.*

1376. Effect of autolytic changes on antigenic properties of kidney preparations. DOUGLAS H. SPRUNT AND ANNA DEAN DULANEY. *Div. of Pathology and Bacteriology, Univ. of Tennessee College of Medicine, Memphis.*

1377. Blood-group-specific substances found in human meconium. DOROTHY J. BUCHANAN AND S. RAPOPORT (introduced by MERLIN L. COOPER). *Children's Hosp. Research Fndn., Cincinnati, Ohio.*

1378. Hemoantibodies in mice of inbred strains. ISRAEL DAVIDSOHN AND KURT STERN.* *Dept. of Pathology, Chicago Med. School, and Mt. Sinai Med. Research Fndn., Chicago, Ill.*

1379. Effect of ACTH and cortisone on antibody. W. PAUL HAVENS, JR. AND JAMES M. SHAFFER (introduced by KENNETH GOODNER). *Dept. of Preventive Medicine, Jefferson Med. College, Philadelphia, Pa., and Army Hepatic and Metabolic Center, Valley Forge General Hosp., Phoenixville, Pa.*

1380. Anaphylactic arthritis in guinea pigs and its hormonal control. G. UNGAR, E. DAMGAARD AND H. G. WEINSTEIN (introduced by A. F. COBURN). *Rheumatic Fever Research Inst., Northwestern Univ., Chicago, Ill.*

1380A. Presidential Address. GEOFFREY EDSALL.

Monday Afternoon, April 30, 2:00 p.m.

General Immunology

MONDAY, 2:00 P.M.—SOUTH HALL, ROOM A

1381. Effect of cortisone on experimental acute disseminated encephalomyelitis. ELVIN A. KABAT, ABNER WOLF* AND ADA E. BEZER.* *Depts. of Neurology, Bacteriology and Pathology. Columbia Univ. College of Physicians and Surgeons, and Neurological Inst., New York City.*

1382. Effect of ACTH on pneumonia induced with tuberculin in lungs of sensitized rabbits. DAVID T. SMITH AND O. M. REINMUTH.* *Dept. of Bacteriology, Duke Univ. School of Medicine, Durham, N. C.*

1383. Effect of cortisone on the pathogenesis of tuberculosis. MAX B. LURIE, PETER ZAPPASODI* AND ARTHUR M. DANNENBERG, JR.* *Henry Phipps Inst., Univ. of Pennsylvania, Philadelphia.*

1384. Immunochemical properties of antitoxin in normal and allergic individuals hyperimmunized with diphtheria toxoid. WILLIAM J. KUHNS,* H. SHERWOOD LAURENCE* AND A. M. PAPPENHEIMER, JR. *Dept. of Microbiology, New York Univ. College of Medicine, and Bellevue Hosp. Third Med. Service, New York City.*

1385. Significance of Shick test in adults. KENNETH GOODNER AND A. M. DE ANDINO, JR.* *Dept. of Bacteriology and Immunology, Jefferson Med. College, Philadelphia, Pa.*

1386. Response to second Schick test in individuals remaining positive after one Schick test. J. S. ALTMAN* AND GEOFFREY EDSALL. *Epidemic Disease Control Unit #4, Great Lakes, Ill., and Dept. of Microbiology, Boston Univ. School of Medicine, Boston, Mass.*

1387. Electrolyte changes during anaphylactic shock in mice. CHARLES L. FOX, JR.,* CARL T. NELSON AND ELIZABETH B. FREEMAN.* *Dept. of Bacteriology and Dermatology, Columbia Univ. College of Physicians and Surgeons, New York City.*

1388. Activated blood protease in anaphylactic and anaphylactoid reactions. KENNETH L. BURDON, RUFUS K. GUTHRIE* AND DELORES F. RICK.* *Dept. of Microbiology, Baylor Univ. College of Medicine, Houston, Tex.*

1389. Tissue culture studies on liver cells of tuberculin sensitized animals in the presence of tuberculin (purified protein derivative). SONJA M. BUCKLEY AND JOHN J. BUCKLEY (introduced by FRANK MALTANER). *Div. of Exptl. Chemotherapy, Sloan-Kettering Inst. for Cancer Research, and Div. of Lab. and Res., New York State Dept. of Health, Sloan-Kettering Inst. for Cancer Research, New York City.*

1390. Significance of complement in tuberculin cytolysis. BYRON H. WAKSMAN. *Massachusetts General Hosp., Boston.*

Joint Session of the Federation

MONDAY, 8:00 P.M.—MUSIC HALL

Program on page 428

Mixer—Informal Reception

MONDAY, 10:00 P.M.—EXHIBITION HALL

Tuesday Morning, May 1, 9:00 a.m.

General Immunology

TUESDAY, 9:00 A.M.—SOUTH HALL, ROOM A

1391. Antigen elimination as an index of immune response. D. W. TALMAGE,* F. J. DIXON, S. C. BUKANTZ AND G. J. DAMMIN.* *Washington Univ. School of Medicine, St. Louis, Mo.*

1392. Metabolism of antigenic I* proteins; effect of antigen and host alteration. S. C. BUKANTZ, F. J. DIXON, G. J. DAMMIN* AND D. W. TALMAGE.* *Washington Univ. School of Medicine, St. Louis, Mo.*

1393. Radiosensitive and radioresistant phases in antibody production. F. J. DIXON, D. W. TALMAGE* AND S. C. BUKANTZ. *Washington School of Medicine, St. Louis, Mo.*

1394. A theory for antigen-antibody reactions. RICHARD J. GOLDBERG (introduced by DAN H. CAMPBELL). *Gates and Crellin Labs. of Chemistry, California Inst. of Technology, Pasadena, Calif.*

1395. Physical chemical nature of antigen-antibody complexes. I. S. J. SINGER* AND DAN H. CAMPBELL. *Gates and Crellin Labs. of Chemistry, California Inst. of Technology, Pasadena, Calif.*

1396. Incorporation of C^{14} leucine by antibody proteins. NORMAN BULMAN* AND DAN H. CAMPBELL. *Gates and Crellin Labs. of Chemistry. California Inst. of Technology, Pasadena, Calif.*

1397. Intracellular distribution of radioiodinated antigens. CHARLES F. CRAMPTON* AND FELIX HAUROWITZ. *Dept. of Chemistry, Indiana Univ., Bloomington.*

1398. Analysis of specific precipitates for distinctive constituents of the antigen. SAM M. BEISER* AND ELVIN A. KABAT. *Depts. of Neurology and Bacteriology, Columbia Univ. College of Physicians and Surgeons, and Neurological Inst., New York City.*

1399. Antigen-antibody reactions in agar. II. Diffusion coefficients of antigens. ELMER L. BECKER, J. MUNOZ, CLAUDE LAPRESLE AND LEON LEBEAU (introduced by KENNETH C. ROBBINS). *Dept. of Bacteriology and Allergy Unit, Univ. of Illinois College of Medicine, Chicago.*

1400. Mixed precipitating systems by the method of diffusion gradients. A comparison with the quantitative precipitin technique. JOHN H. SCHWAB,* WILLIAM J. CROMARTIE* AND DENNIS W. WATSON. *Dept. of Bacteriology and Immunology, Univ. of Minnesota, Minneapolis.*

1401. Principles governing the practical application of complement-fixation tests. JOSE O. DE ALMEIDA,* ARTHUR M. SILVERSTEIN* AND FRANK MALTANER. *Div. of Lab. and Research, New York State Dept. of Health, Sloan-Kettering Inst. for Cancer Research, New York City.*

Tuesday Afternoon, May 1, 1:45 p.m.

General Immunology

TUESDAY, 1:45 P.M.—SOUTH HALL, ROOM A

1402. Complement-fixation. II. The establishment of optimal concentrations of serum and cerebrospinal fluid for diagnosis. JOHN F. KENT AND HANS NEURATH. *Depts. of Bacteriology and Biochemistry, Duke Univ. School of Medicine, Durham, N. C.*

1403. Half-life of the antibody globulin molecule. ALEXANDER S. WIENER. *Serological Lab., Office of Chief Med. Examiner of New York City and Blood Transfusion Div., Jewish Hosp. of Brooklyn, N. Y.*

1404. Mechanism of liquefaction of tubercles. CHARLES WEISS, FRANK SINGER,* AND M. L. BOYAR-MANSTEIN.* *Div. of Microbiology, Lab. of Jewish Hosp., Philadelphia, Pa.*

1405. Tuberculin reaction in relation to local reaction to BCG vaccine in initially vaccinated and in previously vaccinated persons. JOSEPH D. ARONSON AND M. MCGETTIGAN.* *Dept. of Bacteriology, Henry Phipps Inst., Univ. of Pennsylvania, Philadelphia.*

1406. Effect of injection of O.T. on circulating

antibodies in guinea pigs injected with tubercle bacilli. W. EMANUEL SUTER AND STEPHEN V. BOYDEN (introduced by R. J. DUBOS). *Rockefeller Inst. for Med. Research, New York City.*

1407. Development of antibody following transfer of cells taken from the lymph nodes of sensitized or immunized animals. MERRILL W. CHASE. *Rockefeller Inst. for Med. Research, New York City.*

1408. Transfer of cells from lymph nodes of rabbits following regional injection of antigens. SUSANNA HARRIS* AND T. N. HARRIS. *Children's Hosp. of Philadelphia, and Univ. of Pennsylvania, Philadelphia.*

1409. Regional lymph node in antitoxin formation following local injection of diphtherial toxoid. A. B. STAVITSKY. *Dept. of Microbiology, Western Reserve Univ. School of Medicine, Cleveland, Ohio.*

Symposium: Labeled Antigens and Antibodies

TUESDAY, 7:30 P.M.—SOUTH HALL, ROOM A

Chairman: Michael Heidelberger

1410. SAMUEL C. BUKANTZ. *Washington Univ. School of Medicine, St. Louis, Mo.*

1411. ALBERT H. COONS. *Harvard Med. School, Boston, Mass.*

1412. FRANK J. DIXON. *Washington Univ. School of Medicine, St. Louis, Mo.*

1413. FELIX HAUROWITZ. *Indiana Univ., Bloomington.*

1414. IRVING M. LONDON. *Columbia Univ. College of Physicians and Surgeons, New York City.*

1415. PHILIP D. MCMASTER. *Rockefeller Inst. for Med. Research, New York City.*

1416. DAVID PRESSMAN. *Sloan-Kettering Inst. for Cancer Research, New York City.*

1417. HELEN M. RANNEY. *Columbia Univ. College of Physicians and Surgeons, New York City.*

1418. ARTHUR WORMALL. *St. Bartholomew Hosp. Med. College, London, England.*

Immunology Society Business Meeting

TUESDAY, 4:00 P.M.—SOUTH HALL, ROOM A

Federation Discussion Meeting

Open to Members of All Societies

TUESDAY, 4:30 P.M.— MUSIC HALL

Wednesday Morning, May 2, 9:00 a.m.

General Immunology and Viruses

WEDNESDAY, 9:00 A.M.—SOUTH HALL, ROOM A

1419. Influence of nitrogen mustard on in vivo sensitization reactions. LEO ORRIS AND HERMAN N. EISEN (introduced by NORTON NELSON). *Inst. of Industrial Medicine, New York Univ.-Bellevue Med. Center, New York City.*

1420. Precipitin reaction between hapten-azo-protein and anti-hapten rabbit sera. HERMAN N. EISEN (introduced by NORTON NELSON). *Inst. of Industrial Medicine, New York Univ.-Bellevue Med. Center, New York City.*

1421. The spleen in hemolysin production after multiple antigen injections. WILLIAM H. TALIAFERRO AND LUCY GRAVE TALIAFERRO.* *Univ. of Chicago, Chicago, Ill.*

1422. Cultivation of poliomyelitis virus in monkey testicular tissue. WILLIAM F. SCHERER,* GEORGE BUTORAC* AND JEROME T. SYVERTON. *Dept. of Bacteriology and Immunology, Univ. of Minnesota, Minneapolis.*

1423. Role of L-methionine in virus propagation. W. WILBUR ACKERMANN (introduced by THOMAS FRANCIS, JR.). *Dept. of Epidemiology and Virus Lab., School of Public Health, Univ. of Michigan, Ann Arbor.*

1424. Effect of DL-ethionine on poliomyelitis virus growth in tissue culture. GORDON C. BROWN AND W. W. ACKERMANN.* *Dept. of Epidemiology and Virus Lab., School of Public Health, Univ. of Michigan, Ann Arbor.*

1425. Limitation of alimentary virus carriage in chimpanzees immunized against poliomyelitis. HOWARD A. HOWE. *Poliomyelitis Lab., Johns Hopkins Univ., Baltimore, Md.*

1426. Prevention of paralytic poliomyelitis in monkeys with human immune globulin. DAVID BODIAN. *Poliomyelitis Lab., Dept. of Epidemiology, Johns Hopkins Univ., Baltimore, Md.*

1427. An epidemic of poliomyelitis characterized by dual infections with Coxsackie and poliomyelitis viruses. JOSEPH L. MELNICK. *Section of Preventive Medicine, Yale Univ. School of Medicine, New Haven, Conn.*

1428. Typing of Coxsackie viruses. Sequence of development of complement fixing antigens. GUILLERMO CONTRERAS (introduced by JOSEPH L. MELNICK). *Section of Preventive Medicine, Yale Univ. School of Medicine, New Haven, Conn.*

Wednesday Afternoon, May 2, 2:00 p.m.

Viruses

WEDNESDAY, 2:00 P.M.—SOUTH HALL, ROOM A

1429. Neutralizing antibodies against viruses of the Coxsackie group in sera of wild rabbits. J. ANTHONY MORRIS (introduced by JOSEPH E. SMADEL). *Dept. of Virus and Rickettsial Diseases, Army Med. Serv. Grad. School, Washington, D. C.*

1430. Inhibition of Columbia SK virus hemagglutination by polio-convalescent human sera. CLAUS W. JUNGEBLUT AND BENI HORVATH.* *Dept. of Bacteriology, Columbia Univ. College of Physicians and Surgeons, New York City.*

1431. The growth curve of poliomyelitis virus in mice. JOHN D. AINSLIE (introduced by GORDON C. BROWN). *Dept. of Epidemiology and Virus Lab., School of Public Health, Univ. of Michigan, Ann Arbor.*

1432. Chemoprophylactic effect of a mercurial compound in suppressing intestinal carriage of Theiler's virus (TO) in mice. GERALD A. LOGRIPPO, DAVID P. EARLE, JR., IRVING GRAEF AND ROBERT WARD (introduced by JULES FREUND). *Dept. of Medicine and Pediatrics, New York Univ.-Bellevue Med. Center, New York City.*

1433. A systematic study of certain viruses isolated in the tropics of Africa and South America. I. Cross-neutralization tests. KENNETH C. SMITHBURN. *Labs. of International Health Div., Rockefeller Fndn., New York City.*

1434. A systematic study of certain viruses isolated in the tropics of Africa and South America. II. Cross-complement fixation tests. J. AUSTIN KERR (introduced by R. M. TAYLOR). *Labs. of International Health Div., Rockefeller Fndn., New York City.*

1435. A systematic study of certain viruses iso-

lated in the tropics of Africa and South America. III. Physical properties. JOHN C. BUGHER (introduced by R. M. TAYLOR). *Labs. of International Health Div., Rockefeller Fndn., New York City.*

1436. A systematic study of certain viruses isolated in the tropics of Africa and South America. IV. Cultivation and behavior in chick embryos. R. M. TAYLOR. *Labs. of International Health Div., Rockefeller Fndn., New York City.*

1437. A systematic study of certain viruses isolated in the tropics of South America and Africa. V. Histopathological lesions produced in chick embryos and laboratory mammals. HAROLD N. JOHNSON (introduced by R. M. TAYLOR). *Labs. of International Health Div., Rockefeller Fndn., New York City.*

1438. Effect of infection with influenza viruses on hemagglutination-inhibitors of tissues. R. WALTER SCHLESINGER AND HELEN V. KARR (introduced by JULES FREUND). *Div. of Infectious Diseases, Public Health Research Inst. of City of New York, Inc., New York City.*

1439. Effect of chemical agents on the phage receptors of Phase II Sh. sonnei. GUY T. BARRY* AND WALTHER F. GOEBEL. *Rockefeller Inst. for Med. Research, New York City.*

1440. Variation in antiphage activity of the somatic antigen of Phase II Sh. sonnei. MARGERIS A. JESAITIS* AND WALTHER F. GOEBEL. *Rockefeller Inst. for Med. Research, New York City.*

Symposium: Hemagglutination by Viruses Which Do Not Specifically Elute

WEDNESDAY, 7:30 P.M.—SOUTH HALL, ROOM A

Chairman: George K. Hirst

1441. HAROLD S. GINSBERG. *Rockefeller Inst. for Med. Research, New York City.*

1442. F. P. NAGLER. *Dept. of Natl. Health and Welfare, Lab. of Hygiene, Ottawa, Ontario, Canada.*

1443. ALBERT B. SABIN. *Children's Hosp. Research Fndn., Cincinnati, Ohio.*

1444. ROBERT H. YAGER. *Army Med. Service Grad. School, Washington, D. C.*

Thursday Morning, May 3, 9:00 a.m.

Viruses

THURSDAY, 9:00 A.M.—SOUTH HALL, ROOM A

1445. Action of high intensity electrons on microorganisms. I. Inactivation of bacteria and viruses. FREDERICK B. TRAUB, WOLFGANG HUBER,* ARNO BRASCH* AND ULRICH FRIEDEMANN (deceased). *Dept. of Bacteriology, Jewish Hosp. of Brooklyn, and Res. Labs., Electronized Chemicals Corp., Brooklyn, N. Y.*

1446. A soluble antigen from herpes simplex virus giving specific skin reactions. ERNEST JAWETZ. *Div. of Bacteriology and Medicine, Univ. of California Med. School, San Francisco.*

1447. Teschen disease (viral encephalomyelitis of swine). DOROTHY M. HORSTMANN (introduced by JOHN R. PAUL). *Section of Preventive Medicine, Yale Univ. School of Medicine, New Haven, Conn.*

1448. Pulmonary toxicity of Newcastle disease virus (NDV) in mice. FRED M. DAVENPORT. *Dept. of Epidemiology and Virus Lab., School of Public Health, Univ. of Michigan, Ann Arbor.*

1449. Immunologic response to vaccination with inactivated cowpox vaccine. A. S. BENENSON AND C. HENRY KEMPE (introduced by G. EDSALL). *Second Army Area Med. Lab., Fort George G. Meade, Md., and Dept. of Pathology and Bacteriology, Tufts College Med. School, Boston, Mass.*

1450. Purification and characters of the virus of avian erythro-myeloblastic leucosis. J. W. BEARD, DOROTHY BEARD, EDWARD A. ECKERT,* D. G. SHARP* AND T. Z. CSABY.* *Dept. of Surgery, Duke Univ. School of Medicine, Durham, N. C.*

1451. Metabolic studies of Rickettsiae: Pathway of glutamate oxidation in suspension of Rickettsia Mooseri. CHARLES L. WISSEMAN, JR.,* FRED E. HAHN,* ELIZABETH B. JACKSON AND JOSEPH E. SMADEL. *Dept. of Virus and Rickettsial Diseases, Army Med. Serv. Grad. School, Washington, D. C.*

1452. The mechanism of PABA bacteriostasis: competition with a new vitamin, *p*-hydroxybenzoic acid. BERNARD D. DAVIS. *U. S. Public Health Service Tuberculosis Res. Lab., Cornell Univ. Med. College, New York City.*

1453. Reversal of the rickettsiostatic effect of para-aminobenzoic acid by para-hydroxybenzoic acid. JOHN C. SNYDER AND BERNARD D. DAVIS. *Dept. of Microbiology, Harvard School of Public Health, and U. S. Public Health Service Tuberculosis Res. Lab., Cornell Univ. Med. College, New York City.*

1454. Further observations on the J.J. and 1233 influenza viruses. J. J. QUILLIGAN, JR., ELVA MINUSE* AND THOMAS FRANCIS, JR. *Dept. of Epidemiology and Virus Lab., School of Public Health, Univ. of Michigan, Ann Arbor.*

1455. Factors influencing concentration and purification of new strains of influenza virus. A. R. TAYLOR AND I. WM. MCLEAN, JR. *Research Labs., Parke, Davis & Company, Detroit, Mich.*

1456. Protection of mice against the vaccinia virus by the administration of phenoxythiouracilis. R. L. THOMPSON, S. A. MINTON, JR.,* ELVIRA A. FALCO* AND G. H. HITCHINGS.* *Dept. of Microbiology, Indiana Univ. Med. Center, Indianapolis, Ind., and Wellcome Res. Lab., Tuckahoe, N. Y.*

Thursday Afternoon, May 3, 1:45 p.m.

General Immunology

THURSDAY, 1:45 P.M.—SOUTH HALL, ROOM A

1457. Bactericidal activity of normal guinea pig serum for non-encapsulated strains of Klebsiella pneumoniae. JEAN A. DONNELLY* AND JAMES C. HUMPHRIES. *Dept. of Bacteriology, Univ. of Kentucky, Lexington.*

1458. Response of mice to inoculation with certain avirulent bacteria after exposure to sublethal total body x-irradiation. I. T. SHECHMEISTER AND V. P. BOND (introduced by J. BRONFENBRENNER). *Dept. of Bacteriology, Univ. of California, Berkeley, and Biomedical Branch of the Naval Radiological Defense Lab., San Francisco, Calif.*

1459. Serological changes during the acute phase of anthrax infection. VIRGINIA G. MCGANN,* GEORGE G. WRIGHT, WINIFRED E. JONES* AND JANET B. SLEIN.* *Biological Dept.,*

Chemical Corps., Camp Detrick, Frederick Md.

1460. Allergenic properties of the erythrogenic toxin of Streptococcus hemolyticus. DANIEL A. BOROFF. *Pasteur Inst., Paris, France.*

1461. Fecal and serum antibody response to crystalline egg albumin. MARIAN ELLIOTT KOSHLAND. *Dept. of Bacteriology and Immunology, Harvard Med. School, Boston, Mass.*

1462. Observations on hemagglutination by tula remia antisera and its inhibition by polysaccharide. RICHARD J. FEINBERG* AND GEORGE G. WRIGHT. *Biological Dept., Chemical Corps., Camp Detrick, Frederick, Md.*

1463. Spirocheticidal substances of syphilitic blood. HENRY TAUBER, CHARLOTTE MCLEOD,* WARFIELD GARSON* AND HAROLD J. MAGNUSON.* *Venereal Disease Exptl. Lab., U. S. Public Health Service, Univ. of North Carolina School of Public Health, Chapel Hill.*

1464. Indonesian Weil's disease in Puerto Rico and the United States. WILLIAM S. GOCHENOUR, JR., ROBERT H. YAGER, PSYCHE W. WETMORE,* LARUE B. EVANS,* ROBERT J. BYRNE,* AARON ALEXANDER* AND JOHN HIGHTOWER.* *Army Med. Serv. Grad. School, Washington, D. C., and Tropical Res. Med. Lab., San Juan, P. R.*

1465. Complement fixation in the diagnosis of human leptospirosis. ROBERT H. YAGER, WILLIAM S. GOCHENOUR, JR., ALBERT R. WARNER,* PSYCHE W. WETMORE* AND HOWARD HALL.* *Army Med. Serv. Grad. School, Washington, D. C., and Tropical Res. Med. Lab., San Juan, P. R.*

1466. In vitro reactions of cercariae of S. mansoni with immune sera. CH'IEN LIU,* FREDERICK B. BANG AND LAURENCE B. SENTERFIT.* *Dept. of Medicine, Johns Hopkins Univ. School of Medicine, Baltimore, Md.*

1467. Complement fixation test for trichinosis. VICTOR N. TOMPKINS (introduced by F. MALTANER). *Div. of Lab. and Res., New York State Dept. of Health, Albany, N. Y.*

1468. Properties of a pancreatic polysaccharide ETHEL VERNEY* AND AARON H. STOCK. *Dept. of Pathology and Bacteriology, Children's Hosp. of Pittsburgh, Univ. of Pittsburgh School of Medicine, Pittsburgh, Pa.*

PAPERS READ BY TITLE

1469. Failure of cortisone to affect the rate of disappearance of antibody protein. EDWARD E. FISCHEL, HERBERT C. STOERK,* MOGEN BJORNEBOE.* *Columbia Univ. College of Physicians and Surgeons, New York City, Merck Inst. for Therapeutic Research, Rahway, N. J., and Kommun-hospitalet, Copenhagen, Denmark.*

1470. Inhibition of vibrio El Tor hemolysin by some agents. OSCAR FELSENFELD. *Hektoen Inst., Chicago, Ill.*

EXHIBITS

The Industrial, Scientific and Member Exhibits will be located on the Main Arena Floor of the Public Auditorium. They will be open Sunday, April 29, 2:00 p.m. to 8:00 p.m.; Monday, Tuesday and Wednesday, April 30, May 1 and 2, 8:00 a.m. to 5:00 p.m.; Thursday, May 3, 8:00 a.m. to 1:00 p.m.

Industrial Scientific Exhibits

Abbott Laboratories, North Chicago, Ill. (*Booth 34*). The aim of this exhibit is to present recent advances in the physiology and pharmacology of experimental seizures and their application to the search for new and better antiepileptic drugs. Experimental counterparts of the three major clinical groups of convulsive disorders are illustrated, and the differential effects of anticonvulsant drugs interpreted.

Academic Press, Inc., New York City (*Booth 37*). A variety of titles are assembled in this display which aid scientists in keeping abreast of all recent developments. Browsers will find the ever-growing *Advances*; they will note important treatises on *The Enzymes*, *The Alkaloids*, and *The Hormones*. Text and reference works such as Bonner's *Plant Biochemistry*, Haurowitz's *Chemistry and Biology of Proteins*, *Chemistry and Physiology of Protozoa* will also be on view together with books in the fields of chemistry and physics.

A. S. Aloe Company, Saint Louis, Mo. (*Booths 43, 44 and 45*). This display consists of new and modern laboratory apparatus, scientific instruments and reagents of interest to research workers; new model Freezing-Drying Apparatus for histochemistry; demonstration of the de Fonbrune Micromanipulator and Micro-Forge; Moduline sectional steel laboratory furniture will be displayed—and many other new items of interest to research laboratories.

American Instrument Company, Inc., Silver Spring, Md. (*Booths 68 and 69*). New instruments which incorporate recent advances in biochemistry will be exhibited, as well as the most improved models of standard apparatus. Of special interest will be a compact Light-Scattering Microphotometer and a production model of the Aminco Portable Electrophoresis Apparatus. Also on exhibit will be refrigerated and constant-temperature circulating baths, a new high-speed angle centrifuge, dialyzers of both the mechanical and circulating types, pH meters, spectrophotometers, and the well-known Aminco Warburg Apparatus.

American Optical Company, Instrument Division, Buffalo, N. Y. (*Booth 23*). A new (4″ × 5″ and 2″ × 2″) Photomicrographic Camera with focusing telescope will be displayed. Also on display will be a 50× Reflecting Objective particularly useful in ultra-violet work; the latest Phase, Polarizing and Laboratory Microscopes; an automatic clinical Microtome; an ultra-thin sectioning Adapter for the no. 820; and other laboratory instruments.

The American Tobacco Company, Research Laboratory, Richmond, Va. (*Booths 38 and 39*). A smoking machine will be demonstrated especially designed to facilitate investigations of the properties of tobacco smoke. This machine simulates human smoking and makes possible a reproducible collection of smoke for analysis. Samples of the more important tobacco types, suitably labeled and described, will also be included in the exhibit.

Ames Company, Inc., Elkhart, Ind. (*Booth 1*). This exhibit deals with simplifications in laboratory tests for diagnostic purposes. Through charts, diagrams and demonstrations, comparisons between the tableted reagents and the more intricate laboratory procedures will be shown. These reagents provide simple and effective tests, reliable for use in the diagnostic laboratory or by the physician. Tests for acetone, albumin, sugar in the urine and others will be demonstrated. Information on other diagnostic methods will be available.

Armour and Company, Chicago, Ill. (*Booth 48*). Serving Science and Medicine—The Research Division of Armour and Company is pleased to present the following specialty items for experimental use; purified hormones of animal origin, liver and plasma fractions, purified enzymes, enzyme substrates and inhibitors, animal lipids, reference compounds, and other fine biochemicals.

Association of American University Presses, New York City (*Booth 65*). Distinguished for authoritative content and excellence of editorial work, the books of university presses claim enviable rank among non-fiction and technical pub-

lications. The Association of American University Presses has arranged a cooperative exhibit for your enjoyment at this meeting— and to give you an opportunity to purchase some of the important titles for your library.

Bausch & Lomb Optical Co., Rochester, N. Y. (*Booth 86*). A visit to this exhibit will acquaint you with recent developments on their fine scientific instruments. Trained representatives will be happy to answer any questions concerning Bausch & Lomb products. Featured instruments include Ultra-violet optics, the B & L Monochromator, Phase Contrast, the Research Microscope, Petrographic Microscope, and other important optical instruments.

J. Beeber Co., Inc., New York City (*Booth 26*). On display will be the Mikrark Illuminator, a Zirconium Arc light of unusual qualities; it will be shown in its many applications as an ideal source of illumination for Microscopic work, Phase Microscopy, Darkfield Microscopy, Micro-Projection and Photo-Micrography.

Bilhuber-Knoll Corp., Orange, N. J. (*Booth 24*). At this booth Dr. Hauck, Dr. LaForge and Mr. Chadwick will be pleased to discuss the chemistry and pharmacology of the medicinal chemicals now being developed in their laboratories. These include aliphatic amines and amino alcohols having antispasmodic, pressor, depressant and cardiac actions and other characteristic amine effects.

The Blakiston Company, Philadelphia, Pa. (*Booth 27*). There are new and interesting books for you to see at this booth; Rugh's *The Frog—Its Reproduction and Development*, Patten's *Early Embryology of the Chick*—new 4th edition, *Steroids in Clinical and Experimental Practice*, *Proceedings of the Second Clinical ACTH Conference*, the new *Art of Compounding* by Jenkins, Francke, Brecht and Sperandio, and the new printing of Harrison's *Principles of Internal Medicine*—the textbook of medicine with emphasis on physiology, pathology and biochemistry which helps the student *understand* the treatment of disease. Jim Lackey, Blakiston Science Editor, will be on hand to talk to you. Come in and examine the new books.

C. A. Brinkmann & Co. (formerly Gamma Scientific Company), Great Neck, L.I., N.Y. (*Booth 47*). The visitor will find at this booth an interesting selection of scientific instruments and laboratory apparatus. Among other items, there will be displayed the new Oertling Air-Damped, Microgram Balance, Research Polarimeters, Sartorius Selecta (fast semi-automatic Analytical Balance), new type Abbe and Pulfrich Refractometers, Photomicrographic equipment and Micro Manipulators.

Camel Cigarettes, New York City (*Lounge*).

Clay-Adams Company, Inc., New York City (*Booth 9*). This exhibit features Polyetheylene Tubing and special couplers for experimental medicine and biology; and new developments in laboratory equipment and supplies. The Visual Aid Section of the exhibit features new 'Medichromes' ($2 \times 2''$, 35-mm. slides) and human osteological preparations.

The Coca-Cola Company, Atlanta, Ga. (*Lounge*). Ice-cold Coca-Cola will be served through the courtesy and cooperation of the Cleveland Coca-Cola Bottling Company and the Coca-Cola Company.

Coleman Instruments, Inc., Maywood, Ill. (*Booth 87*). This exhibit includes the world-famous Coleman Junior Spectrophotometers, and Coleman Universal Spectrophotometers; pH Electrometers, both battery and AC line-operated; the Coleman Model 7 Photo-Nephelometer and Model 9 Nepho-Colorimeters; the Coleman Electronic Power Supply and assorted accessories for the above instruments.

Edin Company, Inc., Worcester, Mass. (*Booth 22*). The Edin Ink Writing Electrocardiograph and electroencephalographs are featured at this exhibit with the electronic vaculator which is used to electrically stimulate the calf muscles to prevent venous stasis. Other instruments featured by this company are cardiotachometers, medical research amplifiers and oscillographs.

Grass Instrument Company, Quincy, Mass. (*Booths 7 and 8*). On display will be stimulators; preamplifiers and cameras for cathode-rays; cortical, depth and stimulating electrodes; equipment for measuring pressures by strain-gauge technique; stimulus isolation units, and other devices which are designed specifically for use in electrophysiological techniques.

Grune & Stratton, Inc., New York City (*Booth 59*). You are invited to examine some outstanding titles at this display, both new and of continuing interest: Gillman and Gillman's *Perspectives in Human Malnutrition*; Allen's *The Kidney, Medical and Surgical Diseases*; Soskin's *Progress in Clinical Endocrinology*; Wolf's *Urinary Function of the Kidney*; Rappaport's *Rapid Microchemical Methods*; Ponder's *Hemolysis and Related Phenomena*; Barzilai's *Atlas of Ovarian Tumors*; and many others.

Periodicals worthy of attention are: Journals of the British Medical Association—*Blood* and *Circulation*.

Heinicke Instrument Corporation, Rochester N. Y. (*Booth 28*). Exhibit includes Automatic Laboratory Glassware Washer for washing, rinsing, and distilled water rinsing flasks, petri dishes, test tubes, etc.; Animal Cage Washer handling hourly up to 200 cages; Pipett-O-Mat for washing, rinsing and distilled water rinsing 1000 pipettes per hour. Dr. Kurt J. Heinicke and Jane R. Heinicke will be in attendance.

H. T. Hernberg Company, Philadelphia, Pa. (*Booth 70*). Hernberg has had many years, experience in the fabrication and designing of animal cages. Of particular interest is the fact that this company will produce, for research scientists, cages built to their own specifications.

Paul B. Hoeber, Inc., New York City (*Booth 90*). The Medical Book Department of Harper & Brothers will display its full array of distinguished books. The new 3rd edition of McClung's *Handbook of Microscopical Technique* is now available, as well as new editions of Parker's *Methods of Tissue Culture*, Babkin's *Secretory Mechanism of the Digestive Glands* and Hamilton and Hardy's *Industrial Toxicology*. Among many new books of interest to Federation members are Jolliffe, Tisdall and Cannon's *Clinical Nutrition*, Grace Wolf and Wolff's *The Human Colon* and Vorwald's *Pneumoconiosis*.

Kimble Glass, division of Owens-Illlinois Glass Company, Toledo, Ohio (*Booth 30*). A representative line of Kimble laboratory glassware, including volumetric and calibrated apparatus, will be on exhibit. Products bearing the well-known trademarks Exax, Normax and 'K' brand will be included as well as the Kimble Blue Ring Yellow Back thermometer.

Lea & Febriger, Philadelphia, Pa. (*Booth 60*). Lea & Febriger welcomes your visit to its exhibit. Their latest publications in the fields of physiology, anatomy, chemistry, zoology, nutrition, bacteriology await your examination in pleasant, tasteful surroundings. Don't miss the brand new *Pharmacology and Therapeutics* by Grollman, *Elements of Human Physiology* by Lucas, and Quick's *Physiology and Pathology of Hemostasis*.

E. Leitz, Inc., New York City (*Booths 15 and 16*). On display will be microscopes and photomicrographic equipment, including the Ortholux Research microscope, the Panphot Universal camera-microscope, the Aristophot for micro- and macro-photography, and biological microscopes for all types of investigations. Projection equipment includes micro-projectors. Leica camera equipment will be included.

J. B. Lippincott Company, Philadelphia, Pa. (*Booth 31*). For your approval, a display of professional books and journals geared to the latest and most important trends in current medicine and surgery will be presented. These publications, written and edited by men active in clinical fields and teaching, are a continuation of more than 100 years of traditionally significant publishing.

The Macmillan Company, New York City (*Booth 42*). Macmillan will offer for your examination selections from its extensive list of publications in the biological sciences. These publications include standard texts of college level, as well as advance publications for use in research and medical practice.

McGraw-Hill Book Company, Inc., New York City (*Booth 35*). Exhibit will include a selected list of medical and scientific books. Specially featured will be Dr. Houssay's world-famous *Physiology*, now available in an English adaptation. Also of interest will be Mitchell's *Biochemistry*, Nonidez and Windle's *Histology*, Hyman's *Invertebrates*, and Weichert's *Anatomy of the Chordates*. In addition, the latest books in the National Nuclear Energy Series will be displayed.

Merck & Co., Inc., Rahway, N. J. (*Booths 2 and 3*).

Metro Industries, Long Island City, N. Y. (*Booth 40*). This exhibit will present specialized instrumentation for the pharmacologist, physiologist and biologist.

Philip Morris & Co., Ltd. Inc., New York City (*Booth 64*).

The C. V. Mosby Company, Saint Louis, Mo. (*Booths 32 and 33*). The publications on display include the following new books and new editions: Consolazio-Johnson-Marak, *Metabolic Methods*; Sherwood, *Immunology*; Carter, *Principles of Microbiology*; Kleiner-Dotti, *Laboratory Instructions in Biochemistry*; Willis, *Principles of Pathology*; Gaines-Binder-Woodriff, *Introduction to Modern Chemistry*, and Gradwohl-Felsenfeld-Benitez-Soto, *Clinical Tropical Medicine*. A cordial invitation is extended to visit these booths where their representatives will welcome an opportunity to discuss book needs with you.

New Brunswick Scientific Co., New Brunswick, N. J. (*Booth 53*). The Rotary Action Flask Shaker

displayed at this exhibit is a versatile shaking apparatus which imparts superior performance in research on antibiotics, fermentation requiring aeration and laboratory work in general. It is quiet and smooth-operating, non-creeping, corrosion-resistant and has a variation of speeds from 160 to 400 oscillations per minute.

Nuclear Instrument & Chemical Corporation, Chicago 10, Ill. (*Booths 61 and 62*). Nuclear will demonstrate a large variety of radiation detection instruments for use in biological tracer work. This company has been working closely with biological and biochemical laboratories, and also building special instruments for use in medical work. This equipment will be on display. Also included is an exhibit of radioactive compounds which have been biosynthesized in living plants. Factory representatives will be on hand to provide specialized advice on biological or other applications of radioisotopes.

Phipps & Bird, Inc., Richmond, Va. (*Booth 51*).

Radiation Counter Laboratories, Inc., Chicago, Ill. (*Booths 83, 84 and 85*). A complete mobile radioactivity measurement laboratory will be in operation within a truck. With this laboratory, which is a prototype for a biologist, quantitative radioactive measurements may be made. Health protective devices are also shown. All units are in operation with a radio chemist in charge.

Radio Corporation of America, RCA Victor Division, Camden, N. J. (*Booths 18, 19 and 20*). The exhibit will include: an operating display of the Table-Model Electron Microscope with pathological specimens inserted so that visitors can see images of viruses and other sub-microscopic organisms at magnifications of several thousand diameters; a comprehensive display of Electron Micrographs to reveal what is being done by researchers throughout the country with the Electron Microscope, as well as working models of its micro-second timer and nucleonic count-rate meter; a working demonstration of the newly designed RCA industrial television equipment, especially suited for medical and scientific applications, showing how remotely controlled cameras can be employed to bring enlarged pictures of operations, procedures, and experiments to distant points; and use of the RCA Electronic Metal Detector in hospitals to prevent injury to personnel.

Sanborn Company, Cambridge, Mass. (*Booth 52*). Shown at this booth will be several of the Sanborn 'family' of inkless recording equipment for biophysical research, from the single-channel recorder and associated d.c. and strain gage amplifiers to the versatile, multi-channel Poly-Viso. Full data will also be available on such supplementary instruments and attachments as the Electromanometer, Ballistocardiograph, Pulse Wave Attachment, and several others.

Sandoz Pharmaceuticals, New York City (*Booths 54 and 55*). This exhibit will present clinical data obtained with the hydrogenated alkaloids of ergot in man. Charts and graphic material are correlated to explain how the central and peripheral actions of these compounds combine to produce vasodilatation, increased blood flow and a fall in systemic blood pressure. The mechanism of action of the hydrogenated alkaloids will be discussed and supported by suitable clinical data.

W. B. Saunders Company, Philadelphia, Pa. (*Booth 63*). Saunders cordially invites you to visit its exhibit and inspect text and reference books in the fields of chemistry, anatomy, physiology, biochemistry, bacteriology, zoology, nutrition, and pharmacology. See the following new ones: Prosser, *Comparative Animal Physiology*; Sodeman, *Pathologic Physiology*; Anson, *Atlas of Human Anatomy*; Harrow, *Biochemistry*, 5th edition; Moore, *Pathology*, 2nd edition; and others.

Sharp & Dohme, Inc., Pharmacology Section, the Research Division, Glenolden, Pa. (*Booths 49 and 50*). The B-phenylethylamine nucleus has been known since the report of Barger and Dale (*J. Physiol.* 41: 19–50, 1910) to be optimal for sympathomimetic activity. Since then the systematic addition of certain biologically active chemical groups has been shown to modify both quantitatively and qualitatively the pharmacodynamic characteristics of the resulting compounds. This exhibit has been designed to illustrate the relationship of chemical structure to the pharmacologic attributes of a number of these agents. On the basis of such studies a single compound has been selected which encompasses in large measure the most desirable characteristics of a sympathomimetic pressor amine, 'Aramine.'

Technicon Company, New York City (*Booths 57 and 58*) will display the following: *Biochemists*; Micro Pump, a new pump for delivery of from 0–0.1 ml. graduated in 0.0005 ml. with unprecedented accuracy and reproducibility: Technicon Automatic Fraction Collector, a moderately priced, newly designed, time operated, automatic fraction collection apparatus with accessories for counting individual drops of fluid as a control: Technicon Automatic Pipette Washer. *Pathologists and Microscopists*; Technicon Microscope Lamp, a new and radically different microscope lamp;

Autotechnicon for automatic processing and staining of histologic sections; Scopicon for the finest in microprojection; Technicon Paraffin Knife, a heated paraffin knife; Technicon Microslide dryer; Lab-Aid Slide Filing System for microslides and photographic slides; Technicon Constant Temperature Water Bath for floating paraffin sections; Technicon standardized histologic Reagents.

Arthur H. Thomas Co., Philadelphia, Pa. (*Booth 82*).

Charles C Thomas, Springfield, Ill. (*Booth 67*). On display will be new editions of the standard works in these fields, like Sevag's *Immuno-catalysis*; Block and Bolling's *The Amino Acid Composition of Proteins and Foods* will be displayed alongside these new titles: Burger, *Bacterial Polysaccharides*; Miles and Pirie, *Nature of the Bacterial Surface*; Low-Beer's *Clinical Use of Radioactive Isotopes*. Volume III of Macy's *Nutrition and Chemical Growth in Childhood* will be displayed for the first time. A dozen new titles in the American Lectures Series are of special interest to the groups at this meeting.

Tracerlab Incorporated, Boston, Mass. (*Booth 36*). Tracerlab will have on display a complete line of instruments for the measurement of detection of radioactivity as well as several instruments which have been designed specifically for civil defense. Included among these will be a new scaler model, a new model of the windowless flow counter, a pulse amplifier for proportional counting, and new survey meters. Various accessories will also be on exhibit including an alpha scintillation probe, organic and plastic scintillation phosphors, a new high-efficiency gamma geiger tube, and new self-reading pocket dosage meters.

John Wiley & Sons, Inc., New York City (*Booth 4*). Wiley, technical and scientific publishers for almost 150 years, will feature their new and standard titles in the biological sciences. Three recent series of interest to all specialists in the field are the inauguration of the Biological Research Series; the Biochemical Preparations Series; and the publication in this country of the well-known Methuen monographs on biological and biochemical subjects.

The Year Book Publishers, Inc., Chicago, Ill. (*Booth 5*). You are cordially invited to visit this display featuring the important series, *Methods in Medical Research*. The new Volume Three is now published, and copies for inspection are available. A preview will also be given of the contents of Volume Four, which will be issued in the near future. The new Volume Two of Glasser's *Medical Physics* may be seen, as well as other books of interest.

Member Exhibits

Reflexes from the heart and lungs. D. M. Aviado, Jr., T. H. Li,* G. Turnbull,* and A. Cerletti,* Laboratory of Pharmacology, Univ. of Pennsylvania, Philadelphia. Among the known respiratory and circulatory reflexes, the least understood are the Bezold-Jarisch reflexes and pressoreflexes from the heart and lungs. Their historical background, localization, physiological and pharmacological activities are diagrammatically summarized. This exhibit is primarily intended to present the problem of their physiological significance.

An improved historadiograph apparatus and its application. J. J. Clemmons,* M. H. Aprison* and D. M. Angevine, Pathology Department, University of Wisconsin Medical School, Madison. An improved historadiographic apparatus for quantitative determination of mass in single cells has been constructed in this laboratory. Schematic and diagrammatic drawings, as well as photographs of the apparatus, will be on exhibit. In addition, historadiographs and photomicrographs of various tissues will be displayed.

Fatty cysts of liver III. Three routes by which intracystic lipid may leave the cirrhotic liver: (a) biliary, (b) vascular and (c) resorptive. W. Stanley Hartroft and E. A. Sellers, Banting and Best Department of Medical Research, University of Toronto, Toronto, Canada. Mechanisms by which lipid in pathological fatty cysts in the livers of choline-deficient rats may be dispersed will be illustrated by color-prints. (This work was supported by the National Cancer Institute of Canada.)

A new procedure for determination of the respiration of tissue homogenates. John E. Kirk and Per From Hansen,* Washington University School of Medicine, St. Louis, Mo. The diluted tissue homogenate is stored in a glass syringe, provided with a stopcock. During the experiment the syringe is placed in a thermostat; samples are transferred to a Van Slyke apparatus and analyzed for O_2, CO_2 and N_2.

Graphic records of response to sexual stimulation in dogs. Youssef Mawardi* and W. Horsley Gantt, Pavlovian Laboratory, Phipps Clinic, Johns Hopkins Univ., Baltimore, Md. Graphs and charts showing sexual response, with respiration and heart rate, in dogs subjected to sexual stimulation

and recording effect of nutrition, drugs and psychopathological states are displayed.

Blood filmguide. Crichton McNeil, Holy Cross Hospital Research Foundation, Salt Lake City, Utah. A new device for making thin blood smears and aspirated fluid films will be demonstrated. A stainless steel handle holds a beveled glass blade which guides the blood along the slide to make perfect smears of consistent width which may be covered by a standard cover glass.

The Navy's new human centrifuge. J. R. Poppen, Aviation Medical Acceleration Laboratory, Naval Air Development Center, Johnsville, Pa. A new apparatus for study of the effects of accelerative stress upon biological systems has been turned over to the Navy for research use. A model of the centrifuge apparatus, pictures of the Laboratory, and oscillograms showing some of the acceleration patterns possible with this device will be shown.

The prothrombin complex. Armand J. Quick and Clara V. Hussey, Marquette University School of Medicine, Milwaukee, Wis. The known constituents of the complex are prothrombin, prothrombinogen, labile factor and organically bound calcium. The interrelationship of these factors in the formation of thrombin will be shown by diagrams, and the chief characteristics of each component outlined.

Studies of the mechanism of calcification. Albert E. Sobel and Albert Hanok,* Dept. of Biochemistry, The Jewish Hospital of Brooklyn, Brooklyn, N. Y. The exhibit consists of recent studies showing the type of relation that exists between the chemical composition and X-ray diffraction patterns and the composition of blood and diet. Furthermore, extended studies of the reversible inactivation of calcification *in vitro* will be shown. (This study was aided by grants from the U.S. Public Health Fund, the Williams-Waterman Fund and the Damon Runyon Fund.)

Myofascial genesis of pain. Janet Travell and Seymour H. Rinzler,* Dept. of Pharmacology, Cornell Medical College, New York City. Myofascial trigger areas develop at sites of trauma and in reference zones of visceral pain. They may maintain pain cycles indefinitely, yet be blocked permanently by transitory procaine infiltration or ethyl chloride spray. Trigger areas refer pain according to fixed patterns; thus, once known, a pattern can be used to find the source of pain.

Activities of the Library of Congress of interest to the scientist. Library of Congress, Science Division and Navy Research Section, Washington, D. C. Activities and processes of the Science Division of the Library, including author and subject catalogs, Russian Accession Lists, photoduplicating services, etc., will be illustrated. Publications and informational services of the Navy Research Section available to qualified contractors in the fields of experimental biology will be included in the exhibit.

U. S. Pharmacopeia reference standards. The United States Pharmacopeia, New York City. Forty-six reference standards demonstrating how they are distributed will be on exhibit. Included are vitamins, hormones, cardio-active drugs etc., used in official U.S.P. assays and 7 of the essential amino acids.

Publications of the Federated Societies. Journals and books published by the member Societies of the Federation and by Annual Reviews, Inc., will be on display. Included among the journals are *The American Journal of Physiology*, *Journal of Applied Physiology*, *The Journal of Biological Chemistry*, *The Journal of Immunology*, *The Journal of Nutrition*, *The Journal of Pharmacology and Experimental Therapeutics*, *Pharmacological Reviews* and *Physiological Reviews*. The books are *Annual Review of Biochemistry*, *Annual Review of Physiology*, and other publications of Annual Reviews, Inc. An attendant will be present to give information and to receive subscription orders.

DIRECTORY OF COUNCIL AND COMMITTEE MEETINGS AND SPECIAL FUNCTIONS

Friday, April 27

Federation Executive Committee—8:00 p.m. (*Room 9, Hotel Cleveland*)

Saturday, April 28

Federation Executive Committee—6:00 P.M. (*Room 9, Hotel Cleveland*)
Physiology Society Council—9:00 A.M.; 1:00 P.M.; 7:00 P.M. (*Parlor F, Hotel Statler*)
Biochemistry Society Council—9:00 A.M.; 1:00 P.M. (*Room 24, Hotel Cleveland*)
Pharmacology Society Council—10:00 A.M. (*Parlor G, Hotel Statler*)
Pathology Society Council—10:00 A.M. (*Parlor H, Hotel Statler*)
Nutrition Society Council—9:00 A.M.; 1:00 P.M. (*Room 27, Hotel Cleveland*)
Immunology Society Council—10:00 A.M.; 8:00 P.M. (*Room 29, Hotel Cleveland*)

Sunday, April 29

Federation Executive Committee—3:00 P.M. (*Room 9, Hotel Cleveland*)
Physiology Society Council—9:00 A.M.; 8:00 P.M. (*Parlor F, Hotel Statler*)
Biochemistry Society Council—9:00 A.M.; 1:00 P.M.; 7:00 P.M. (*Room 24, Hotel Cleveland*)
Pharmacology Society Council—10:00 A.M. (*Parlor G, Hotel Statler*)
Pathology Society Council—10:00 A.M. (*Parlor H, Hotel Statler*)
Nutrition Society Council—9:00 A.M.; 1:00 P.M.; 7:00 P.M. (*Room 27, Hotel Cleveland*)
Immunology Society Council—10:00 A.M.; 8:00 P.M. (*Room 29, Hotel Cleveland*)
Society for Experimental Biology and Medicine: Committee on Advertising; National Membership Committee; Secretaries of Sections—10:00 A.M.; 1:30 P.M.; 3:30 P.M. (*Club Room C, Public Auditorium*)
Physiological Effects of Radiation, Informal Discussion Group—8:00 P.M. (*Pine Room, Hotel Statler*)
Annual Review of Physiology, Editorial Board—2:00 P.M. (*Parlor A, Hotel Statler*)
Poultry Nutrition Conference—2:00 P.M.; 7:30 P.M. (*South Hall Room A, Public Auditorium*)

LUNCHEON

Journal of Nutrition, Editorial Board—12:15 P.M. (*Hotel Cleveland*)

DINNERS

*Temperature Regulation Section, Physiology Society—6:30 P.M. (*Hotel Hollenden*)
Editorial Boards, Physiology Society—6:30 P.M. (*Hotel Statler*)
Society for Experimental Biology and Medicine, Editorial Board—6:00 P.M. (*Hotel Statler*)

Monday, April 30

Society for Experimental Biology and Medicine: Council; Finance Committee—9:00 A.M.; 2:30 P.M. (*Hotel Statler*)

LUNCHEON

Society for Experimental Biology and Medicine, Council—12:30 P.M. (*Hotel Statler*)

DINNERS

University of Michigan, Department of Biological Chemistry—6:30 P.M. (*Hotel Cleveland*)
University of Wisconsin—5:45 P.M. (*Halle Bros. Dining Room*)

Tuesday, May 1

Physiology Society Council—10:00 A.M. (*Parlor F, Hotel Statler*)
Pharmacology Society Council—10:00 A.M. (*Parlor G, Hotel Statler*)

LUNCHEON

University of Illinois—12:15 P.M. (*Hotel Hollenden*)

DINNERS

Nutrition Society—6:30 P.M. (*Hotel Cleveland*)
Pathology Society—7:00 P.M. (*Hotel Statler*)
*Coagulation Section, Physiology Society—6:30 P.M. (*Hotel Allerton*)
*Comparative Physiology, Discussion Group—6:30 P.M. (*Hotel Hollenden*)
*Metabolism, Discussion Group—6:30 P.M. (*Hotel Cleveland*)
*Pain Sensation, Discussion Group—6:30 P.M. (*Hotel Hollenden*)
Nutrition Reviews, Editorial Staff—7:00 P.M. (*Hotel Cleveland*)
Journal of Biological Chemistry, Editorial Committee and Board of Editors—7:00 P.M. (*Hotel Cleveland*)

* Attendance by invitation.

*Respiration Section, Physiology Society—6:30 P.M. (*Hotel Hollenden*)

Wednesday, May 2

Federation Executive Committee—9:00 P.M. (*Room 9, Hotel Cleveland*)

Physiology Society Council—7:00 P.M. (*Parlor F, Hotel Statler*)

Biochemistry Society Council—7:00 P.M. (*Room 24, Hotel Cleveland*)

Pathology Society Council—7:00 P.M. (*Parlor H, Hotel Statler*)

Nutrition Society Council—7:00 P.M. (*Room 27, Hotel Cleveland*)

Immunology Society Council—7:00 P.M. (*Room 29, Hotel Cleveland*)

* Attendance by invitation.

Breakfasts

State University of Iowa—8:00 A.M. (*Auditorium Hotel*)

Iota Sigma Pi—8:00 A.M. (*Hotel Hollenden*)

Luncheon

Biological Abstracts, Section Editors—12:15 P.M. (*Hotel Hollenden*)

Dinners

*Gastroenterology Section, Physiology Society—6:30 P.M. (*Hotel Statler*)

*Adrenal Physiology, Discussion Group—6:30 P.M. (*Hotel Cleveland*)

Pharmacology Society—7:00 P.M. (*Hotel Statler*)

*Circulation Section, Physiology Society—6:30 P.M. (*Hotel Allerton*)

Thudichum Society—6:00 P.M. (*Hotel Hollenden*)

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